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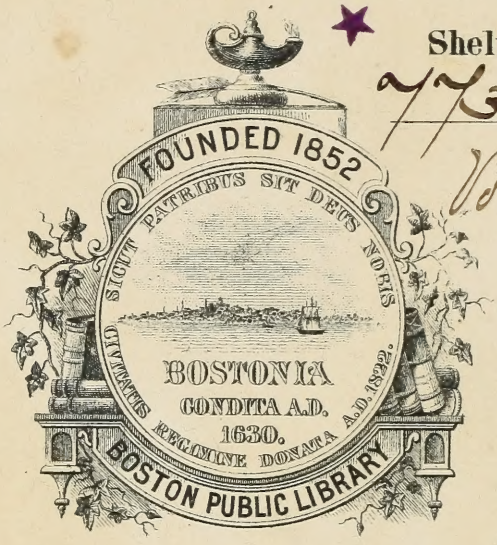

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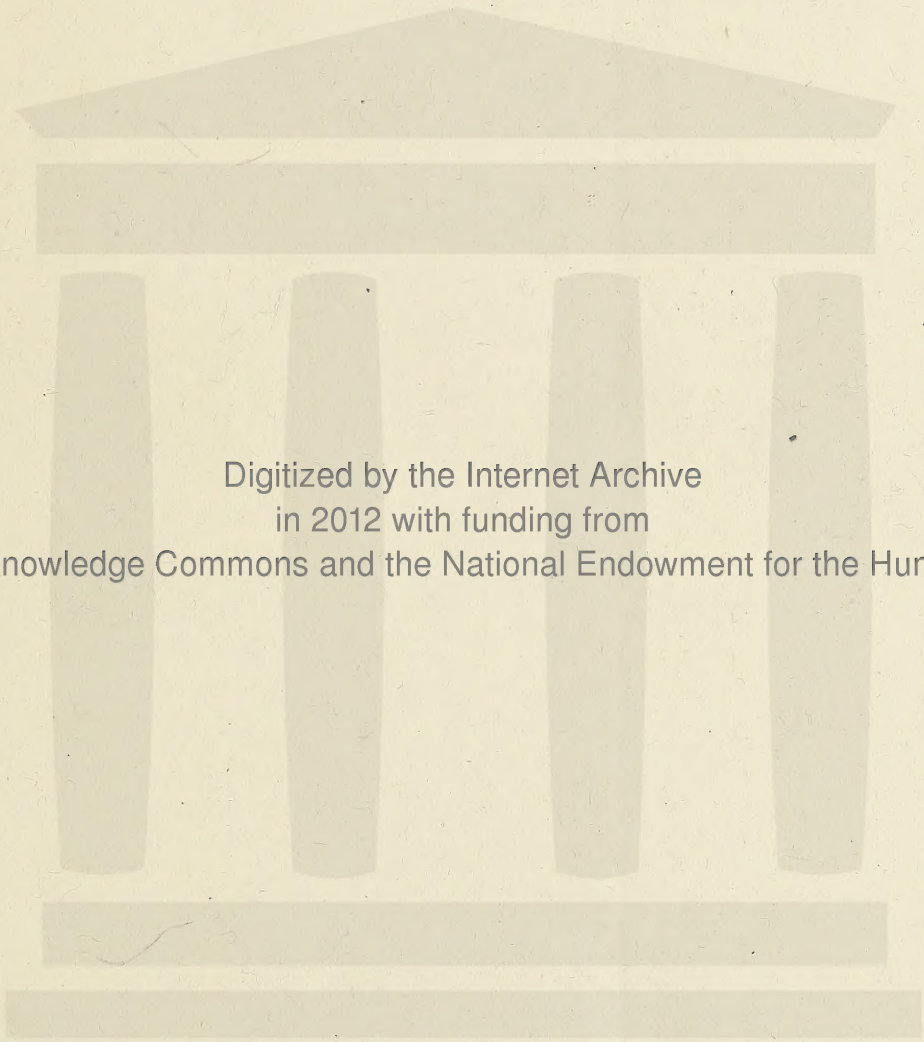

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Medical Communications

OF THE

MASSACHUSETTS MEDICAL SOCIETY.

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VOL. XII. — N°. I. — 1875.

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Second Series.
VOL. VIII. — PART I.

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WITH AN APPENDIX,

CONTAINING THE PROCEEDINGS OF THE COUNCILLORS AND OF THE SOCIETY.

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ARTICLE I.

THE INTERESTS OF THE PUBLIC AND THE MEDICAL PROFESSION.

BY GEORGE H. LYMAN, M.D.
OF BOSTON.

READ AT THE ANNUAL MEETING, JUNE 9, 1875.*

Mr. President and Fellows of the Massachusetts Medical Society:—

The first annual reunion of our Society, comprising at that time but thirty-one members, was held ninety-four years ago.[1] The custom inaugurated three years later, of devoting an hour at these meetings to an annual address, has, with four or five omissions only, been continued now for nearly a century. From the mere handful of men originally composing the Society, we have increased to some fourteen hundred members.

During this long interval, the changes which have come over the spirit and practice of the profession of medicine, and the altered relations developed between it and the public, are more or

* At an Adjourned Meeting of the Mass. Medical Society, held Oct. 3, 1860, it was

Resolved, "That the Massachusetts Medical Society hereby declares that it does not consider itself as having endorsed or censured the opinions in former published Annual Discourses, nor will it hold itself responsible for any opinions or sentiments advanced in any future similar discourses."

Resolved, "That the Committee on Publications be directed to print a statement to that effect at the commencement of each Annual Discourse which may hereafter be published."

[1] November, 1781.

less familiar to you, as are also the persistent attempts of unqualified pretenders to get such a lodgment under our banner as would enable them the better to pursue their impositions. Occasionally unfit persons have by false pretences obtained admission, but the association has proved an uneasy one for them, so incongruous and uncongenial, that sooner or later they have been compelled to retire.

The history of these innovations, but more especially some detailed account of the public work effected by our organization, and of the changes which higher attainments in knowledge, resulting from the rapid discoveries effected in physiology, pathology, chemistry and microscopy, have required in our practice, would be an instructive and entertaining subject for our rapidly approaching Centennial. I can merely allude to them incidentally, premising the assertion that we may honestly claim that all these controversies as to ethics, membership, qualifications, etc., have resulted to the advantage not merely of ourselves, but of the community, for whose best welfare alone we have any claim to exist.

Were our objects purely selfish we might well abandon every struggle for better things, for who does not know that a patent pill or a well advertised elixir has more money in it than our philosophy has ever dreamed of ?

If we are accused of conservatism, it must be conceded that it is a conservatism alone of the interests of the public; if we have refused to affili-

ate with any "exclusive dogma," whether it be Perkinsism or Spiritualism, Thomsonianism or Eclecticism, Allopathy or Hydropathy, Homœopathy or Electropathy, our sufficient reason is that the range of the regular practitioner includes everything of worth which they contain, most of these erratic systems originating mainly in attempts to erect an independent structure upon some isolated but already well known medical fact, valuable only in its existing and subordinate connection.

The history of medicine for a thousand or more years is indeed but a history of successive grafts upon the main trunk, of original theories and discoveries, whenever careful investigation has shown a reasonable probability of their ultimate fruitfulness.

This Society has always been as eager to welcome any new idea — proved to be worthy its welcome, as it has been wisely sceptical in regard to any novelty intruding itself without satisfactory credentials, believing that the true spirit of scientific research and the only safe method in these days of modern culture, each giving birth to some fancied new discovery, is carefully and patiently to analyze them all, that rejecting the chaff it may give its sanction only to that which practical experience proves to be good.

We place no limit upon this spirit of research. Every investigation of disease, every experiment with drugs, every physiological problem which may properly be pursued outside our Society, may

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quite as well, if not better, be done within it; certainly there is no restriction upon any one's liberty of action, other than the check which an association with others engaged in similar pursuits will always impose upon rash procedures or hasty deduction.

The record of the Massachusetts Medical Society shows that from its origin continuous efforts have been made to raise the standard of preliminary education,[1] to encourage the development of every scientific discovery in the various branches of our profession, and by rigid observation of their practical applications, to guide the suffering through their unavoidable attacks, relieving those organic disorders which are incurable, and rectifying, so far as may be, those functional derangements which impede the healthy processes of nature.

Were the charge that our organization tends to limit free inquiry and independent practice, true, we should now be all following the same routine of set formulas for every disease. So far from

[1] Within a few weeks the Harvard Medical School has announced a long-needed step in advance. After September, 1877, students who desire its advantages must possess a degree in Letters or Science from some recognized College or Scientific School, or else pass an examination in Latin and Physics. The By-Laws of the Massachusetts Medical Society have always professedly required these qualifications for admission, but from the necessities of the case the rule has been practically ignored. This initiation of a better state of things by the Medical School comes none too soon. It will meet with the cordial approval of the Society, and it is to be hoped that the example will be followed elsewhere. In earlier days the facilities for education were so limited that a reasonable excuse existed for laxity on the part of the schools, but the time for such exigencies has passed, and it is now no longer necessary to matriculate indifferently prepared men. The higher the standard the more attractive will the profession become to the class of minds needed for the rapidly increasing scientific developments of the day.

the truth is this, that the disagreements of doctors are proverbial.

While pathology, physiology, diagnosis, hygiene, the natural history of disease, have in their rapid development approached more and more nearly the dignity of science, it still remains true, that the practical application of our remedial measures to the multiform and complicated emergencies arising from individual constitution and habits of life, constitutes as yet only an art, in which the artizans, precisely as in all other callings, are more or less skilful, and that the fullest latitude is allowed to the judgment of each individual. Every physician has his favorite method, the result of personal experience or choice, for meeting indications as they occur. One is most successful with morphine, another with opium as an anodyne; one prefers cold water, another, digitalis and squills, for diuresis; one approves of blue mass, another of podophyllin; one believes in the ligature, another in torsion. Some, indeed, believe in nothing at all, unless it be with the early objectors to anæsthesia in midwifery, that pain and suffering are a part of the plan of Creation and had better not be much meddled with!

It cannot be denied that there is quite as much difference among regular practitioners in their methods of treating the same disease as between them and the better class of so-called irregulars, between whom and ourselves the distinction in many cases is one of ethics rather than therapeutics, and the result has naturally been the ab-

sorption by regular practice of all worth preserving in every ism and pathy that has attempted the erection of a new school on its "exclusive dogma." Nor need we fear a different result from any of the novelties which the future may have in store.

The restless spirit of the age resents any exhibition of conservatism, no matter where it may manifest itself; neither law, theology nor politics is safe from the attacks of the modern reformer, clad in his mail of self-conceit. It is not surprising, therefore, that our own profession, a compound as it is of science and art, and which is perhaps the least capable of mathematical demonstration of any of the liberal callings, should be obliged, in its turn, to put itself on the defensive against outside clamor, nor that the cautious spirit which has always characterized our action as a Society, has been attributed, by the unthinking portion of the community, to illiberality, to a blind conceit and pride of opinion, clouding our vision of the new truths so palpable to their clearer intellectual insight.

To evince their contempt for our stupid obstinacy, such critics rush headlong to the opposite extreme, and in the unseemly haste to exert their influence in favor of every untried wonderful new revelation, forget that none are so ready to recognize a new truth as those who after "making haste slowly" have given themselves time to test its truth, and that the judgment of a body of well-trained experts is more reliable than the crude fancies of enthusiasm and one-sided experiment,

or the bold and reckless trading upon the prejudices of the masses, so characteristic of many of the reformatory movements of the day.

It surely may, without presumption, be claimed for regular practitioners as a body, that they are as intelligent, honest, unselfish and gifted with as fair a share of common sense, as any other body of men. Granting this, it is passing strange that the same business sagacity which distinguishes our people in their respective callings, should not lead them to recognize that their safest course, in matters involving such vital issues as the preservation of life and health, is to leave the working out of these problems to those specially trained for the duty, and whose interest in the result cannot possibly differ from their own.

The increase of this restless spirit, in these latter years, has gradually effected marked changes in the relations of all professional men to the public. The physician, especially, instead of being looked up to with deference and respect as the nearest and dearest friend, is only too often regarded as a mere mechanician, whose services are to be cheapened if indeed they are paid for at all, and whose relations to the family are considered much on a par with those of the butcher or baker who supplies their daily food. I do not mean to assert that this is always or even in the majority of instances true, for we all know how affectionately we are relied upon by very many of those to whom we minister; but I do mean to say that the spirit of quackery has tended greatly to diminish that

kindly cordiality and confidence which was so potent as an incentive, and that it has induced many of those who, nominally belonging to us, cannot be said to be really of us, so to lower their standard in deference to this state of things, as to become little better than the money-getting empirics, and furthermore that the encouragement of this spirit by the public has wrought much detriment to their own interests.

The question naturally arises, are the public wholly to blame in this matter, and may it not be that we have been too sensitive in our estimate of their criticism? We cannot deny their right to the exercise of an independent judgment upon the merits of any new system proposed for their acceptance. Neither ridicule nor denunciation will have any other effect than to strengthen their sympathies for those who profess to be only striving after the truth. Truth must always come to the surface sooner or later, and the regular practitioner may well await the issue patiently.

The public too have found it difficult to divest themselves of the old-time, well-founded association between physicians and nauseous drugs. When they fully realize, as they are rapidly doing, that modern medicine professes—not the cure of disease, that being the province of the Almighty—but first and foremost its prevention by hygienic and sanitary means; and secondly the rectifying of deranged functions, chiefly by diet, rest, temperature and nursing; and lastly the relief of pain and distress, induced by organic changes which

sooner or later must come to all as the prelude to the end, burdens which can only be mitigated never cured, and that in all this work drugs play but a secondary, though still to some extent an indispensable part, the sooner will the old confidence return.

I say an indispensable part, for with all proper deference to the statements of such representative men as Sir John Forbes, Sir James Clark, of Bigelow, Holmes and Gould, there nevertheless is danger of our placing too narrow limits upon the usefulness of drugs. We should at least be cautious of putting ourselves in a false position with the public, by overstepping the point at which the truth rests. The constant and useless repetition of their opinions without the qualifying statements accompanying them, has given rise in many quarters to erroneous ideas of their real meaning.[1]

It is unnecessary to state to this audience that the practice of to-day is in almost every respect unlike the practice of our fathers, and probably another half-century will witness a corresponding amount of light thrown upon much that is now confessedly obscure. Such progress can only be delayed by an arrogant assumption that all novelties are necessarily worthless.

Intemperate opposition only makes martyrs of those, than whom none know better how much for

[1] "With the medical profession the true orthodoxy is an unquestioning allegiance,—not to convictions and opinions held as beliefs,—but to the duty of inquiring whether convictions and opinions correspond to the order of nature."—*Brit. & For. Med.-Chi. Review*, Jan., 1875, p. 48.

their interest is this species of martyrdom. There is a force behind which irresistibly impels to progress and development, and it becomes the medical profession to retain the lead if they do not wish to be lost sight of in the rear. Were the axiom always borne in mind that we have no rights separable from the interests of the public, it would clear away much sensitiveness and misapprehension,—then the public realizing our disinterestedness would more cordially rely upon our judgment, and patiently wait for all necessary investigation with something of the old faith in the final decision.[1]

A marked feature in the profession of to-day is the tendency to carry the subdivisions of medical work to an extreme degree. Formerly the only division considered necessary was between medicine and surgery, and that only in the larger cities. Soon dentistry became a specialty, and properly so. Then followed the diseases of the eye and ear, and both profession and public recognized its propriety and convenience, if not necessity, until at last we have the special lithotomist, the special tenotomist and chiropodist; one man devotes himself to the perinæum, another to the palate; one confines himself to the lungs, another to the larynx; one to the brain, another to the rectum; one to obstetrics, another to uterine dis-

[1] A gratifying and encouraging indication of the confidence still existing in the purposes and practices of the medical profession, notwithstanding the plausible and aggressive character of quackery, is shown by the liberal contributions made since our last meeting, for the erection of new buildings to facilitate the work of the Medical Department of Harvard University.

ease; one to electricity, another to the massage, and so on — until soon each family will require as many doctors as there are different deranged organs or functions needing attention, none having that especial family interest in their patients which formerly existed, nor caring much, perhaps, beyond the fee. Some few specialties are universally recognized as both convenient and appropriate, and we may well acknowledge our indebtedness for some of the most brilliant discoveries of the century to individuals who have given especial devotion to some one branch of their profession; but we must not forget that they have been men whose general acquirements were not limited to the subjects they have illustrated, but that these were the solid foundation on which, alone, they were enabled to push their special investigations to such brilliant results.

The excessive subdivisions now in fashion are not only useless but positively injurious, and if this process of attenuation is to go on, we shall soon arrive at that degree of globular dilution which leaves nothing of original strength.

They are unnecessary, for the reason that every well-informed medical man is or should be competent for the management of all ordinary diseases; and injurious, for the reason that the general public, especially outside our large cities, are influenced thereby to lose their confidence in their own local medical adviser, upon whom they ought to be able to rely, while he in his turn, from the very prevalence of this feeling, finds no

encouragement to keep himself well informed. It is objectionable also from its inevitable tendency to open up small fields to the range of superficial men, too ignorant or indolent to embrace the larger sphere of general practice. Diagnosis, pathology and therapeutics, in their wider range, are essential to the proper treatment of any special disease, medical or surgical, and he only is deserving of trust who from study and experience has gained some insight into their practical applications to all diseases.

The best operator is not always the best surgeon, and so of the rest. It is a question with many observant members of this Society whether there should not be some stipulation requiring of those now looking forward to their degrees and to admission to fellowship, and who are professedly devoting themselves to some anticipated specialty, a preliminary course of hospital or dispensary practice. Every young practitioner finds himself, after a few years of general experience, more especially fitted by taste or acquirement for some particular department of practice in which he feels himself stronger, develops more interest, or finds more to his taste. Such preferences would thus be but a natural outgrowth from experience, and it would seem to be the most suitable way of acquiring reputation for especial skill in any particular department.

There is one topic relating to our profession which is now interesting certain portions of the

public, and one which, sooner or later, we may be compelled to take into consideration, arising out of the excitement as to "Woman's Rights," especially in relation to a higher standard of female education. I refer of course to the questions as to whether our medical schools and hospitals should be opened to women; if so, whether by the method of separate or mixed instruction; and finally, whether those able to pass satisfactory examinations shall be admitted to our Society. This opens up as a necessary preliminary the whole subject of woman's moral, mental and physical capacity and fitness, involving too wide a range of inquiry for the time allotted me, even had I the disposition or qualifications necessary for the work; but the subject seems of sufficient interest to justify the appropriation of a part of the hour to some general considerations, with only incidental and unavoidable allusions to the deeper physiological questions involved, and which have been so freely discussed elsewhere.

First of all, then, we may freely admit the right of women to every educational advantage in all the Arts and Sciences, in Law, Theology and Medicine. They not only have this right, but they already exercise it; and if they can attain to the standard required, we need seek no occasion to throw obstacles in their way.

If the world has reached its present maturity and they have not as yet proved themselves, with brilliant but rare exceptions, able to compete in certain directions with their male companions, we

may even willingly accept the claim made for them that they have not had a fair chance, and throw the lists freely open to as many as feel it their vocation to enter.

In many things they need enlightenment, especially in sanitary, hygienic and physiological subjects, both for their own governance and for the proper training and development of their children.

Whether the education they seek shall be in our companionship, whether the Law Schools, the Theological Seminaries, or, which more concerns us, the Medical Colleges and dissection rooms, shall be thrown open to them indiscriminately, and whether we, especially, are called upon to assist them in securing these demands and then admitting them to this Society which was never intended for such affiliation, are questions involving many other considerations by no means so clear.

Whatever may be the ultimate decision, the subject deserves dispassionate consideration, and the result must apply to the sex as a whole, and not to a few exceptionally masculine women only, whose interests and fancied rights are as nothing if they should be found to clash with the welfare of the whole body politic.

The only occasions on which this Society has been called upon for an expression of opinion are the following:—in February, 1853, the advice of the Councillors was asked by the Censors as to the application of Mrs. N. E. Clark for admission. On motion of Dr. Jacob Bigelow, it was voted that the Censors be instructed to examine male

candidates only. At the annual meeting in 1867, a communication was received from the Trustees of the Massachusetts General Hospital, asking for an expression of opinion as to the expediency of admitting females as students to the wards of the hospital, and it was voted to be "inexpedient to admit females as students to our State Medical Schools and Hospitals." In October, 1872, the Councillors were asked by the Censors for instructions how to act on the application of Miss Susan Dimmock for admission to fellowship (she being a graduate of the University of Zurich). It was referred to a Committee, the majority of whom subsequently reported, that under the Acts 1789 and 1859,[1] Miss Dimmock was entitled to an examination for admission. A minority report objecting to this view, it was after discussion finally voted to recommit, and the Committee were instructed to ask legal advice. At the meeting in June, 1873, the opinion of Messrs. Hoar and Putnam was given, "that the Society had the power to admit or refuse to admit females to membership;"[2] upon which "it was voted to instruct the Censors not to admit females to examination as candidates for fellowship." And there, so far as this Society is concerned, the matter now rests.

From early times medical degrees have occasionally been conferred upon women, notably at Salernum[3] and Bologna, and it is claimed that they may

[1] Digest, Art. xx.
[2] For opinion, see Records, October, 1873.
[3] During the middle ages the celebrated school of Salernum produced several female physicians, and one called Trotula practised with great distinction and wrote a work on the diseases of women.—Tilt. Uterine Therapeutics, p. 2.

now graduate in Italy, France, Russia, Spain, Switzerland, and from a few medical schools in this country. With reference to the degrees conferred upon them at Bologna so often paraded, it is doubtful if "any woman ever received a degree there as the natural sequence of her studies without a special injunction of the Pope or Emperor." [1] In Scotland it has been recently decided that women, even if they can meet the required examinations, have no legal right to compel instruction from any medical school, and on their appeal from this decision to the House of Lords, the Professors of the University of Edinburgh claimed in their "Petition" that "the teaching of medicine in a University to a mixed class of young men and young women would be opposed to the convictions of a vast majority of the educated classes of the country." No woman has thus far it appears ever studied and graduated in a Scotch, nor, so far as I can ascertain, an English University. At a convocation of the University of London in May, 1874, a motion for the admission of women to degrees was carried, 83 to 65. The meeting, which seems have been largely composed of women's supporters, drummed up for the occasion, "did not constitute more than a tenth of the whole number of members, few voting 'aye' belonging to the medical profession, and there is no reason to expect that the senate will consider themselves bound seriously to entertain the question." [2] In March, 1874, the London Obstetrical Society, after a full

[1] Saturday Review, July, 1873.
[2] Medical Times and Gazette, May 16, 1874.

discussion, declined to admit females to fellowship for the reason, among others, that "it will be neither for the good nor for the happiness of women that they should assume our habits, occupations and anxieties in addition to their own, which they cannot possibly throw off."[1]

It is a common popular fallacy founded upon a superficial, perverted view of the facts, that females are peculiarly adapted to the practice of Obstetrics. Nothing could be more erroneous, as there is probably no branch of the profession for which they are so ill adapted. More than half a century ago the propriety of the employment of women as midwives seems to have agitated the profession and community in this vicinity. Among others the matter was reviewed by Dr. John Ware, whose opinion was clearly against it, not on the ground of any "intellectual inferiority or incompetency in the sex," but "rather from the nature of their moral qualities." He adds, "I venture to say that a female could scarce pass through the course of education requisite to prepare her as she ought to be prepared, for the practice of midwifery, without destroying those moral qualities of character which are essential to the office." His reasons are cogently put, and to the many here present who remember his wise judgment, the acuteness of his observation and the purity of his character, those reasons would have great weight.[2]

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[1] London Obstetrical Journal, February, 1874.
[2] Remarks on Employment of Females as Midwives. Boston. 1820.

The first regularly educated practitioner who devoted himself to obstetrics in this country, is said to have been Dr. James Lloyd, of Boston,[1] in 1754; and next after him, Dr. Shippen, of Philadelphia,[2] in 1756. Previous to that time it would seem that this important business was exclusively in the hands of illiterate women, whose practice seems to have been very little better than that still in vogue among our western savages.

A goodly proportion of the midwifery practice of Great Britain among the poor and middling classes is still performed by females, but the mortality resulting from their ignorance is such that the public are now crying for more stringent laws for their governance—demanding urgently a better educated class and certain qualifications, the want of which shall render the practice of their vocation illegal.

A well-trained class of midwives would doubtless be cordially and universally welcomed by the profession here. The poor everywhere are unable to render any adequate remuneration to the educated and fully occupied physician, but can afford a decent remuneration to midwives whose preparation has been less costly, and whose expenses are comparatively small; but no such woman should be permitted to practise until her ability for the management of all simple cases has been tested by a suitable examination. Such a

[1] Mass. Med. Society Communications, Vol. ii. 244.
[2] Toner's Annals of Medical Progress, page 58.

class as the *sages-femmes* of the French and Germans would be invaluable here, sufficiently instructed to recognize impending danger, and under legal obligations to seek at once competent professional assistance in every abnormal case requiring interference.

Occasionally such exceptional women as Mesdames Boivin and Lachapelle have come to the surface, so skilled, so gifted, as to be recognized authorities even among their male confrères; but the very existence of such exceptional instances only adds strength to the argument against the general capacity of the sex for such work. Otherwise how do we account for the fact that their example has not been more generally followed? They were properly educated,—but the like facilities have always been equally open to others. Whence arises the significant fact that all this work has fallen so generally into the hands of the stronger sex? It must either be the result of an instinctive want of confidence on the part of the public, or because experience has proved that few women possess the masculine mental traits demanded in those grave emergencies which so constantly occur in the practice of midwifery.

In general practice these emergencies are seldom such as not to afford time for reflection, possibly a reference to authorities; but the occurrence of convulsions, post partum hæmorrhage, prolapse of the funis, placenta prævia, an inverted uterus, and the like, demand not only intelligence and the ready knowledge of what is required,

qualities which either sex may have in equal measure, but something more—the cool courage, strength and prompt assumption of responsibility, which few females with their quick feminine sympathies are equal to.

Indeed it may well be doubted if, in the whole domain of even purely surgical practice, more of these masculine qualities are required than in some of the unforeseen accidents to which every lying-in woman is liable, and upon the occurrence of which nothing but the most prompt interference will prevent a fatal result to the mother, or to the child, possibly to both. This branch of the profession—in the hands of women from time immemorial—receiving from them little or no improvement, no thorough investigation, had no sooner passed into the control of men than its practice was revolutionized and so continuously developed by exhaustive study and analysis of the physiology, mechanism and therapeutics of parturition, that it may now be reckoned among the most perfect departments of our art.

The complaint that educational facilities for women have been wanting in our profession, is in a large measure disproved by the instances already cited. Would it not be nearer the truth to say that the number of females desiring to turn their energies in this direction and to avail themselves of such opportunities as they had, has been too limited to make any impression? Were all restrictions removed as they desire, it is quite improbable that even now the applicants would permanently increase.

Education favors the development of hidden faculties, but such faculties will always find their own methods for development, even if the best educational facilities are not within easy reach, and no amount of education will create faculties which have no latent existence. Even in our own sex the most brilliant examples of culture and success are by no means to be found among those who have been the most fortunate in their opportunities. True genius for any calling always finds a way to its desired end.

Does not all this failure on the part of women justify the apparent instinct which has led society to the belief, that the influence of sex in occupation is the natural sequence of the recognized sex in mind, and that—notwithstanding in every age there are certain disappointed natures, who, having either from lack of taste or opportunity missed their more appropriate vocations, endeavor as reformers to show that the fault is not in them —society has on the whole realized its best interests and acted accordingly?

To assert that women are not fitted for the training requisite for the mental development of man, implies no intellectual inferiority. "A superior woman may be injured by the mental training which is adapted to an inferior man," and vice versâ, which is only saying that the mental qualities of the two sexes have such inherent differences that no training is equally adapted to them indiscriminately. It does not follow that a higher system of general female education is to be dis-

couraged ; it is only the methods to be pursued, and the ultimate aims to which it should be directed, upon which any difference of opinion should exist.[1] But admitting their intellectual equality, we may with perfect propriety question their physical ability. It has been claimed that this is "a matter for themselves, their parents and guardians" to decide ; but our reply to this is, that while to parents and guardians may be conceded the right to determine what they are willing to risk for their wards, it is no less true that there is a graver, broader issue, underlying such personal, partial ambition, and that the decision must, for the general interest of society, turn upon its relation to the public welfare, the healthy development of social life.

There are indisputably certain maternal, educational, domestic duties, the necessary result of original creative act, for which females alone are competent, and no part of which can be delegated to us, nor can there be any failure in their performance compatible with the social welfare of any community. If there is to be superadded to these essential and unavoidable claims upon female energy the study and practice of Law, Theology and Medicine, they should be endowed with something more than masculine, even superhuman powers.

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[1] "The fact that the agitation for a better system of female education has been made a plea for the entrance of women into professions and vocations for which they are physically or morally unfitted, or from which they have been excluded by long tradition, has done much to injure a worthy cause."—*Lancet*, June 20, 1874.

It cannot be alleged of the medical profession, at least, that they are inimical to any movement tending to the better, more thorough education of women, in appropriate methods and directions; but they are not only entitled, it becomes their imperative duty, to raise a warning voice when they have reason to believe that such movements are taking directions opposed to the well-being of the race. In this view alone are the criticisms upon modern female education, which have excited such public attention of late, justifiable.

Whatever may be our opinion of the entire accuracy of the physiological statements which have been so confidently made, and although in the judgment of many of us this argument has been pushed much farther than the facts will warrant, it is very certain to most medical minds, that there is an underlying basis of truth justifying the feeling that some radical change is needed in the training of young women, if we would not have mothers not merely unable to nurse their babies, but if we would have any babies at all to require of them that impossible office.

Whether the difficulty be moral or mental, originating in violated physiological law, vicious social exigencies, or unavoidable climatic influences, the discussion, it is to be hoped, will result in arousing some effective action on the part of all who are interested in the happiness of coming generations.

The prevention of conception and the murders committed during the early months of pregnancy,

so notoriously common in these days, have more to do with the nervous and uterine ill health of women than they are willing to acknowledge, or than their critics have seen fit to recognize. Were every practitioner at liberty to make known the facts in this direction, of which he has almost daily cognizance, the public would be horrified.

The decided ground taken by this Society against the lax morality prevailing as to this destruction of early fœtal life, is well known. No abortionist can remain with us a moment longer than is necessary for his legal expulsion, and there is perhaps no other moral delinquency, the bare suspicion of which in any one meets among us with sterner reprobation.

In this connection, too, we must in fairness not lose sight of the fact, with its evident bearing upon the question at issue, that the subjects of nervous exhaustion, hysteria, derangement of the pelvic organs, and the whole train of disabilities peculiar to the sex, are not confined to the so-called better classes, nor even to that small portion of them supposed to be injured by excessive brain-work. Our hospitals and dispensaries, whose occupants are mostly from the middle and laboring classes, and who certainly cannot be suspected of suffering from too great intellectual activity, show quite as large a proportion.

Nor is it by any means true that the nervous, delicate, thorough-bred American beauty, fragile as she often seems, does produce a progeny really inferior in either physical or intellectual strength,

to the coarser and rougher types prevailing in these other classes. Nothing in our social, certainly nothing in our political or military history, where only we can look for the test on a large scale, would justify such a supposition.

It is asserted by most of those who have given attention to this subject, that the delicacy and sensitiveness of the female organization, and especially the physiological peculiarities of their sexual nature, are incompatible with the physical vigor required for the harassing and wearying duties of the medical profession, duties from which even the strongest men are often obliged to seek relaxation. To this the reply is made that the assertion is not founded upon fact. This answer may be, doubtless in some instances is, correct, but we may be permitted to question whether the cases cited in proof are not really exceptional, and whether such results, as a rule, can be attained without in some measure destroying that relationship between the sexes established by an allwise Providence, and the recognition of which has, heretofore, been thought essential to the best welfare of society. How many women after all are there, whose health, strength or temper for a fourth or fifth of the active period of their lives, is not accompanied by a state of nervous erethism sufficient to materially and unfavorably influence their mental equipoise, as well as their physical ability for professional work. "They cannot escape the physiological conditions of their sex." Most women as well as most men naturally hope to be married, and being mar-

ried hope to have families. If their time is to be given to the exacting demands of professional life, instead of, or in connection with, those more domestic pursuits which have been heretofore considered as their appropriate sphere, and for which no one else is or can be made competent, they must first point out to us some feasible substitute, or both parties will come to grief.

There is no profession, probably few occupations heretofore reckoned as masculine, which do not require as we have said, for their successful prosecution, all of a man's energies, time and strength. Certainly the profession of medicine admits of no divided allegiance, and the physician who gives anything more than the time absolutely necessary for recreation, to other occupations, would be justly thought recreant to the public responsibilities which he has assumed.

On the other hand the woman, who from any cause has unfortunately—or as she may say, fortunately—failed to meet with the one who might have made an agreeable domestic life possible for her, may claim that she has no embarrassments to her freedom; but how many are there who will willingly admit, until the elasticity of youth and the best if not the only years fit for professional preparation have long departed, that she still does not look forward to the day when she shall have home cares and duties to absorb her time.

And here I cannot refrain from protesting against the unmanly and ungenerous sneers with which one critic after another has garnished his tale,

when alluding to this so called "missed vocation." The argument obtains neither weight nor dignity from ridicule, and when clothed as it sometimes has been in language admitting only of indecent construction, no answer is possible from the other side. It has been well said that if women have "missed marriage," it is all the more creditable that they have "missed maternity;" to which we may add, that if men bore the babies, how many bachelors would escape conviction? Physiological considerations are an important, to many minds the most important, element in this discussion, forced upon us by medical women, and can only be met by unequivocal language; but surely our language is not so barren as to make coarseness essential to plain speaking. It is not found necessary in our Society discussions nor in general medical literature.

The right of women to attempt any sphere of intellectual development and activity is, as we have freely admitted, unquestionable; but an equal right pertains to the male sex—who from the beginning have governed, and probably will to the end continue to govern communities—to exercise their judgment also, in the practical decision as to what is wisest and best for the welfare and continuance of that aggregation of sexes which we style society, and the appropriate and natural combination of which alone makes civilization a possibility.

It has been eloquently asserted that the judgment of the world on the proper education and social status of woman has always been warped by the fact

that men have made the laws and women have consequently never had an equal start in the race.[1] To show what women are capable of, where, for one reason or another,—the incubus being removed,—they have had free range for their abilities, the names are displayed, so familiar to every reader, of many noble women great in intellect, strong in will and clear in judgment, who have made their mark in history. Of these, so few when all told, a certain portion doubtless deserve all that is claimed for them, but of others equally great intellectually, it may be doubted whether they added anything to the sum total of human happiness in their day and generation. Granting all that has been claimed on this point, it is not at all proved that women as a whole have not had every opportunity which they have needed. Surely every advance made in the civilization of the human race has enured to their advantage and elevation as much as to ours. They from the beginning have undeniably had control of the training of the very young of both sexes, free from any restraining laws, and if they have taken such pains to develope the manly qualities of the boys and the feminine traits of the girls, it must have been either from an instinctive sense of their inherent differences, or because it has been soon discovered that a well-formed vigorous boy wont wear petticoats, nor a timid delicate girl pantaloons; although there is

[1] John Stuart Mill on "Subjection of Women," 1874, an authority which, however great it may be with those whose views he represents and whose cause he advocates, can hardly have much weight with others in view of his own peculiar relations with the sex.

occasionally some odd creature supposed to belong to the latter sex, whose infelicitous development in maturer years exhibits itself to the public in a hybrid costume indicative of an androgynous gender.

But admitting, if you please, for the occasion, that the medical profession does offer a proper opening for the ambition of a few of the female sex, the important consideration immediately intrudes itself, How shall that education be acquired? Shall it be in mixed classes, in the companionship of the other sex, with all the existing advantages which our medical colleges render immediately available, with their organized corps of instructors, their dissecting rooms, laboratories, museums and cliniques? Or shall these same facilities be afforded them only in separate classes, involving of course double duty from the instructors, who for the present at least must be, for want of any other, of the male sex? Or, neither of these being acceptable, shall the privilege be accorded them of examination for degrees (as is now done in Dublin, Oxford and elsewhere) whenever they, by such independent methods as they best can secure, shall have fitted themselves for that agreeable ordeal? This latter method, it is needless to say, amounts practically to a requirement of the maintenance of separate facilities in the way of schools or colleges with all their expensive appurtenances, and of hospitals for the necessary clinical observation and experience.

Enough has already been said elsewhere as to the wide difference of opinion existing as to the propriety and safety of a general co-education of the sexes, and the discussion, though not always conducted in the wisest and best spirit, has undoubtedly caused a more correct appreciation of the real issues involved. Especially is this true in its application to the subject of medical education.

In Great Britain there seems to be a willingness to admit women, who may desire it, to matriculation, but only in separate classes. There being no law compelling unwilling professors to give separate instruction, their opportunities are necessarily limited. Even when, as stated above, they succeed in getting the necessary instruction, it has been formally decided "that women have at common law no right to demand to share the studies of men, at Universities, and no right to demand degrees."[1] Without registration, the practice of medicine is there illegal, and by the present law no one can be admitted to registration who does not possess a degree from some University. There the great preponderance of public sentiment seems decidedly adverse to any "mingling of the avocations assigned by custom from time immemorial to the different sexes," and especially to mixed instruction, as in itself unwise and impolitic.

On the Continent, however, there seems to be less sensitiveness, and women may be admitted freely, in mixed classes, to professional medical

[1] Saturday Review, July 5, 1873.

teachings and demonstrations on all subjects, without exciting disagreeable comment. Whether this be owing to more general freedom between the sexes, to what we should consider a lax tone of public delicacy, or to some other cause, it is difficult to say; but it is rather startling to suppose that such a state of public sentiment will ever become the rule in this country. Disclaiming any juvenile squeamishness, the idea of woman being present at certain anatomical demonstrations, either on the living or the dead subject, which are imperatively necessary for the proper instruction of students, is neither more nor less than disgusting. It is, in this connection, arrant nonsense to say that to the pure all things are pure, and to repeat the stupid platitudes about "prudery," "sickly sentimentalism," "false shame unworthy this advanced age," etc.; as well apply these terms to the ordinary conventionalities of all decently pure domestic life, and demolish every door and shield to privacy. Every feeling of refinement and delicacy instinctively revolts; and though the right to this freedom may be granted to those who are so anxious to assert it and who can face the ordeal, as we may equally admit their abstract right to do many things which would be disgusting to ordinarily decent and well-bred people, it may well be questioned whether this rude demolition of existing barriers is either judicious or desirable, especially for women themselves. The tendency must inevitably be to blunt that sensitiveness between the sexes which now forms one of the firmest

holds of women upon men, and which, as a rule, ensures even to the weakest of the former the sympathy and support of every man who ranks himself above a brute.

It is said[1] that at Zurich women attend demonstrations of the male sexual parts, and the gynæcological cliniques with all that accompanying exposure which continental teaching permits and employs, and which among us is often so revolting even to men, without any apparent rudeness or objection from the students. This only proves the students to be wonderfully considerate and well-bred (which by the way is hardly accordant with their proverbial Bohemianism), or that the restraining influence of the Professor is exceptionally strong. The sensitive delicacy of the women themselves is sufficiently shown by their unblushing presence; but who that knows young medical students can doubt that such scenes in such companionship must, as already said, tend to deaden those feelings of respectful, tender and sympathizing appreciation which they of all persons most need to cultivate for their subsequent professional life and relations ?

On the other hand the difficulties attendant upon wholly separate instruction, with separate colleges, hospitals and other necessary paraphernalia, are so evident, that for any attempt in that direction disappointment may be predicted in advance. It seems hardly probable that the numbers seeking

[1] Tait, Medical Education of Women. Birmingham, 1874.

their advantages would be large enough to render the solution of the pecuniary problem, that bugbear of all large educational projects, an easy one, so that it apparently results in this, that if women are to be educated as doctors with any prospect of success, it must be effected through the instrumentalities already in operation for the instruction of male students.

For many of the subjects required, some of the graver objections to mixed classes do not exist. Ophthalmology, Dermatology, Dentistry, Pharmacy, Auscultation, Laryngoscopy, Chemistry, Botany, possibly some others might be pursued in common, obviating to that extent the need of double duty from the instructors. But even in these there would be the prerequisite of general anatomical and physiological preparation, without which no one should be permitted to graduate in any specialty. For their hospital instruction, also, there would be no insuperable difficulty, as they could be allotted separate days to follow the visiting staff, few of whom would probably object to affording the same facilities as are now accorded to male students. But for most of the subjects, such as Anatomy, Obstetrics, Theory and Practice and Physiology, mixed classes ought to be decidedly discouraged. A superficial teaching may doubtless be given in such a way as not to be offensive, but there are few instructors who would care to give the elaborate demonstrations requisite for any really thorough teaching; it would be sufficiently difficult with a separate class of women unembarrassed by

the presence of a large number of young men. The expense, even when divided among the fullest classes, is always a burdensome matter to students, and for the limited number of females who would probably ever require this separate instruction, the burden would be proportionably increased,—a consideration however which does not concern us, nor indeed could they complain, as it would be infinitely less than the establishment of separate schools and hospitals.

Finally, granting that in one way or another such candidates have been able to prepare themselves sufficiently to pass the requisite examinations, and have received their degrees, the main question recurs—What should be the policy of this society as to admitting them to its privileges ?

If however much we may disapprove, they are to be professionally educated and given degrees, their admission seems to follow as a natural and necessary result, and indeed there are reasons why it might be thought advisable. It is quite improbable that in point of numbers their influence would ever become embarrassing.

It would terminate a so-called grievance, the constant iteration of which places us in a false position to the public, and renders our motives liable to misconstruction.

If women are to practise in the same field with ourselves, the recognized association would remove many awkward and anomalous positions between us, the public and themselves, inevitable so long as they are without the pale of the Society, and

more than all would exercise a restraining influence by rendering them legally amenable to the ethics upon which we lay so much stress.

Still another reason consists in the fact that in the present position of these women society has no sure means of judging between the ordinary nurse who is called from her wash-tub to the assistance of her next-door neighbor in the pangs of labor—the woman who with impudence equalled only by her ignorance, offers for a thousand dollars to cure an ovarian tumor by some secret specific—the electrician and spiritualist, usually combined, who with closed eyes or in a heavenly trance, can with equal ease read the state of your mind or your liver—and that very limited number whom we now and then have reason to recognize as the educated and honest exceptions, and whom but for the disqualifications which we attribute to their sex we would willingly admit. The successful passing of our Censors' examination and subsequent admission to the Society, would make such a prominent distinction between these few latter and the whole festering mass of swindlers and abortionists as could not but be for the public good.

The most serious objection to their admission is, that it would be immediately construed as a tacit approval by the medical profession of any professional education for women. This would be a great error, the truth being that the profession as a whole are singularly unanimous in their disapproval of any such aim, they having a very decided conviction that the higher standard of

education which women are seeking, and which they certainly ought to have, should find for its development other and more appropriate spheres which are as yet far from being exhausted.[1]

It is one thing to grant, as we have done, their abstract right to any study or occupation which does not contravene public law or morals, it is quite another to be convinced of the necessity or the propriety of many such occupations. Many things, confessedly lawful, are manifestly inexpedient.

If, however, it be decided that our profession is to be open to women, it is far better, that not only their preparation for it but their action therein, should be under competent supervision, and that in neither should any unnecessary obstacle be thrown in their way.

If, as we believe, they have undertaken a task

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[1] The following remarks by Dr. John Lord, in a recent lecture on Madame de Staël, are interesting in this connection: "He asked why woman could not compete with man in any efforts that did not bring his physical superiority into requisition? Common sense would tell us that the sex could not be senators, jurists, or professors; not because their intellects could not grasp great questions, but because the professions incurred labors which it was not becoming for a woman to assume. But in those departments where labor was hid from the gaze or the intrusion of the world, where public life was shunned, where lofty genius and great attainments were required, why would women not successfully compete with men? Why should they not become linguists; decipher the difficulties of archæology; write the best poetry of the realm of sentiment; be essayists and critics? Surely, they had lofty sentiments, were keen to observe absurdities; why should they not describe the life and manners of former generations, if they had acuteness, patience, insight, application? Why should they not be artists, if they had a quick sense of the beautiful, the grand, the true? He knew of no more splendid future for women than to encircle their brows with those proud laurels which had ever been decreed to those who had advanced the interests of truth and the dominion of the soul, and which experience showed they had always won, and reason still more imperatively declared they might continue indefinitely to win."—*Reported in the Boston Advertiser*, April 16, 1875.

which will result in failure, we can well afford to let it have a fair trial under new conditions, trusting to the future to prove that which we had thought already sufficiently proved by the experience of the past. Whatever may be the ultimate decision of this Society, it is greatly to be desired that it shall be influenced by no temporary or personal considerations, but that it shall turn upon the broad, catholic ground of public and social advantage. More than that, as integral parts of the great whole we cannot ask; less than that will sooner or later create an antagonism on the part of those from whom alone our rights are derived, which will strip the Society of much of its influence and power.

Another subject of vital importance to the public, to which I can here but briefly allude, is the latitude now permitted by law to the operations of unqualified practitioners, unqualified by training, unrecognized by any system or school, and restrained by no other consideration than self-interest. Every ignoramus who chooses so to do, may with no other foundation than brazen impudence and a counterfeit name, assume the title of doctor, spread broadcast his obscene literature and advertisements over the fences and through the mails, advertise in so-called respectable journals, religious (*sic*) as well as secular, the vilest specific and the surest emmenagogue, with but the most transparent veil to their real intent, and all this without preventive interference from the

authorities, who apparently prefer to wait until the morals are blunted, the money stolen, the infanticide completed, after which they will punish the offender if they can catch him.

The law recognizes no difference between such irresponsible swindlers and those who, by many years' devotion of their talents and means to the acquisition of the knowledge which shall fit them for the responsibilities involved in the duties of the medical profession, have given, as it were, securities in advance for their integrity and qualifications.

The public—and this in some measure it must be confessed is our own fault, from the manner in which we have dealt with it—are fully impressed with the belief that our judgment of these charlatan dealers in patent nostrums is based upon self-interest alone. To convince those who from want of familiarity with it must necessarily take a very superficial view of the subject, that all this irregular practice is pecuniarily a benefit rather than an injury to us, will always be difficult if not impossible, until they are educated to appreciate the exact truth—until they recognize, as we do, that many ailments needing but a little judicious advice, with possibly some simple remedies for their relief, are so aggravated by tampering with advertised nostrums until serious functional or even organic changes are developed, as to require in the end tedious and expensive attendance. Much of the work of physicians, as we know, arises from this neglect of proper early treatment, and more

still, perhaps, from those conditions of mind and body induced by the infamous and alarming statements as to the dangerous character of affections which are perfectly simple in their nature and treatment.

It has been argued that this is a subject which does not concern us, that such a state of things could not exist without the willing consent of the public, whose support and encouragement of them releases us from all responsibility. But is our responsibility so easily thrown aside? If, as is assumed, we, "encouraged by the patronage of the law," are endowed with certain privileges in order that we may the better diffuse a "knowledge of the animal economy and the properties and effects of medicines,"[1] it follows that we are under implied obligations to advise and educate, that in so doing we may, if possible, convince the community of any evil tendencies threatening their welfare.

The public at large not only consider it a right, but they would be the first to hold us derelict to our duty, did we not interfere in all hygienic matters, such as are involved in quarantine, drainage, the advent, causes and spread of infectious diseases, the investigation of the air they breathe and the water they drink. Indeed, it would seem that the only thing with which, in the view of certain minds, we must not meddle, is the liberty of any one to impose upon credulity with secret reme-

[1] See Charter of Society, Digest, Sec. I.

dies, which are by no means free from danger, as insidious but sure as the danger from any contagion or infection. It is no exaggeration to aver that the carminatives and soothing syrups, the balsams and elixirs, published as "perfectly harmless and warranted to contain no noxious ingredients," have slain their thousands.

The arguments used in opposition to legislation against quackery might as reasonably be applied to any legislation for other sanitary measures, authorizing the establishment of Boards of Health, which, notwithstanding the opposition met with at first, have now become fully established in public favor. The same right which not only justifies but demands of the State their interference with ventilation, drainage, food and drink, and the isolation of contagious diseases, exists and should be exercised also for the unrestricted sale of poisons and their congeners, secret remedies, as well as for the quasi practitioners who deal them out. The welfare of the people is the supreme law.

Few persons, of those at all conversant with the subject and who have rendered themselves competent to judge, will deny the need of some restraining influence in this matter; but what direction that influence shall take, what form it shall assume for the accomplishment of the end, is open to a wide difference of opinion. Perhaps the less we, as a profession, have to do with legislation the better, so long as our efforts in that direction are regarded with so much jealousy; but certainly the influence of the fourteen hundred medical men in

this State might, if exerted in concert and with wisdom, so enlighten our community as to induce them to demand for themselves better and more efficient restraining laws, and, what would be more to the purpose, obtain their cordial countenance and support for the prosecution of these offenders, as earnestly as they now require the trial, and on conviction, the punishment of any other class of criminals.

The claims in this direction of the public upon us should henceforth be limited to the requirements of our charter — the proper diffusion of sound medical knowledge in its broader and more comprehensive sense. The responsibility for the use or abuse of that knowledge should rest with others. To be judge and jury at the same time ought no longer to be required of us. As the matter now stands, we are not only expected to fight their battles single handed, but to pay the onerous expenses, receiving as our reward no end of abuse and misrepresentation, from the unreasoning prejudice that all this is done for the furtherance of our own interests.

The attention of the profession, as the conservators of the public health, has been of late years more and more awakened throughout the country to the pernicious effects of the lawless liberty now prevailing, and in some of the States this feeling has culminated in legislation, giving supervisory authority to local and State medical societies.

But any law which may by possibility, justly or unjustly, be interpreted as for the benefit of its

administrators, will never get the sympathy of the public, and lacking that must ultimately fail of its object.

If it could be made here, as in some countries, a penal offence to practise, or to dispense drugs, without a proper registration or license, obtainable only as the result of rigid but impartial examination by a competent board of examiners independent of the competition of any school or sect or society, all would probably be done that the nature of the case admits of, crushing out of sight, at all events, a host of impudent pretenders.

It is just here, however, that the main difficulty presents itself—that is, the appointment and composition of a board whose character and position should be so influential as to silence professional jealousies and compel the approval of the community for whose benefit alone their labors are designed.

Furthermore, if such a prohibitory law as is needed is to be anything more than a dead letter, the responsibility for its enforcement should rest with the examiners or some other independent but authoritative body. This Society might be active or not in bringing delinquents to the bar, but once there, the functions of the profession should be simply those of any other expert witnesses.

Mr. President and Gentlemen:

One duty remains to me, the only one which your favor has imposed that I approach with any feeling of reluctance; it is to remind you of

the fact, that while we may be instrumental in warding off disease and death from others, we can ourselves claim no exemption from the dread summons.

During the past twelve months thirty-five of our number have gone to give an account of their stewardship. Most of them were long past the meridian of life; two[1] highly distinguished for their varied acquirements, justified their title of Honorary Members by leaving behind them at three score years and ten an enviable professional and social reputation for scientific attainment and personal worth.

Among the others there were many whose long accustomed familiar presence at our meetings will be sorely missed. The perpetuation of their memory upon our records belongs of right to other hands, but I trust you will pardon me for an allusion to some who have been peculiarly prominent in this city.

There is hardly need of words to remind those of you, so long privileged with his daily presence, of our late President, Dr. Charles G. Putnam, a man who bore about with him such an invariable atmosphere of kindness and gentle courtesy, a man whose abundant professional resources, and whose great tact and operative skill in his own especial branch were always so freely at the service of his less experienced brethren, and whose qualities of head and heart it delighted us to re-

[1] Josiah Crosby, of Manchester, N. H., died Jan. 7, 1875, aged 81. Edward Delafield, of New York, died Feb. 13, 1875, aged 81.

cognize by conferring upon him our most honorable office.

The name and memory of JEFFRIES WYMAN, whose professional worth and high distinction in the more peculiarly scientific branches of our work, have already received such just and eloquent tributes, belong not to us alone, but to the whole country. To this Society it must always be a source of pleasure and pride that his name stands enrolled upon their catalogue as having been one of its most active members.

Dr. GEORGE DERBY, too, will be remembered and honored by all as one who, after achieving distinguished reputation for hospital service during the war of the Rebellion, deserved every credit for his persistent efforts in developing and sustaining the influence of our State Board of Health, until it finally became a permanent power for good in the land.

In like manner I might enumerate others of the list, were it not encroaching too much upon the privilege of those whose duty and pleasure it will be to commemorate them.

Let it be our aim so to conduct ourselves in our professional relations to each other and to the public, that we too at the last may deserve the like kindly recognition.

ARTICLE II.

THE COUNTRY DOCTOR:—

HIS PLACE IN THE PROFESSION.

BY PIERRE LEBRETON STICKNEY, M.D.
OF SPRINGFIELD.

READ AT THE ANNUAL MEETING, JUNE 14, 1876.*

MR. PRESIDENT AND FELLOWS
OF THE MASSACHUSETTS MEDICAL SOCIETY:—

IT is upon such occasions as this, the Anniversary of our ancient Society, that the larger number of the profession here assemble from the smaller cities, the country towns, and the villages of the State, to revive the ties of fellowship and to enjoy the pleasures of an annual reunion. They come hither to strengthen old friendships and refresh old associations. They come hoping to have new and better thoughts awakened within them, so that reanimated by the inspirations of the day, they may return encouraged and sustained for the laborious routine of their ordinary professional life.

* At an Adjourned Meeting of the Mass. Medical Society, held Oct. 3, 1860, it was

Resolved, "That the Massachusetts Medical Society hereby declares that it does not consider itself as having endorsed or censured the opinions in former published Annual Discourses, nor will it hold itself responsible for any opinions or sentiments advanced in any future similar discourses."

Resolved, "That the Committee on Publications be directed to print a statement to that effect at the commencement of each Annual Discourse which may hereafter be published."

It may not be inappropriate, therefore, to wander a little from the ordinary track of philosophic or scientific discussion, and to offer you a few random thoughts on the life and habits of the so-called "country doctor;" his needs and the place he occupies in the field of medical culture. I am the more inclined to this, since the majority, perhaps, of those who now listen to me are men occupying the out-posts — in the valleys, on the hill-tops, or along the mountain ranges — men who are called upon to perform the varied and responsible duties of active citizenship, as well as to be ever diligent workers in their own special calling.

These men, comparatively isolated from their professional brethren, go through their yearly round of labor, day and night, over hill and valley, obliged to depend almost solely upon their own thoughts for companionship, and upon their books for counsel; contentedly working on, through a long life it may be, and rarely "known beyond their own country ride — sturdy, warm-hearted, useful class of men, under whose rough coat and blunt exterior," says Dr. John Brown of Edinburgh, "you find professional skill, enthusiasm, intelligence, humanity, courage and science." Many of them are master workmen, "who need not to be ashamed," learned in literary, medical, and even classic lore, and capable of ranking alongside of the leaders in our profession.

It is an old saying that success in the business of life depends mainly on our location — that its surroundings and influences impress us,

and stamp the peculiarities of its prevailing characteristics upon our feelings, habits of thought, and modes of life. Every community also aggregates a similar power in its social, moral and mental forces, in the variety of its labor and employments — a power that is subtle, working silently, not easily analyzed, but which controls individual thought and action in no small degree.

Notwithstanding, however, the influence of location and of this social power, there is much to be affirmed of the man himself. Circumstances are not the sum of force of every thing, while the the man is nothing ; for we recognize under every condition of life, that the true, brave man will attempt to rise above and control its varying accidents, and to do worthily all that comes within the range of human possibilities. Conscious of this predetermined purpose, he regards all around him with a searching gaze, detects "all disguises and pretensions, looks straight into the heart of things, measures all by absolute standards," and strives to live and act nobly in the environments and actualities of life, whatever they may be. This is true of every brave soul, but no better or truer examples can be found than among our country doctors, many of whom, guided by generous motives, and governed by fixed principles of right, devote themselves with active benevolence and rare fidelity to the practice of their art among the rural population in these secluded country villages.

The contrasts and differences between a country and a city practice lie principally in the sodal-

ity of the one and the isolation of the other. Each position, however, has its advantages and disadvantages ; and in its own way fashions and develops those special influences which have so much to do in adapting the practitioner for his work.

In the city are found large opportunities for every kind of advancement. The social conditions, the literary associations, the public libraries, and other sources of improvement, furnish in cities a scope and variety of means which are not to be had elsewhere. So also the immediate opportunities of daily professional intercourse, out of which grow mutual reliance and assistance ; the ready communication of newly-acquired knowledge and fresh experiences ; and the benefits of professional observations possible only in the public charities of a city ; — all these contribute greatly to the common advantage and success of medical men in populous places.

On the other hand, the "country doctor" has comparatively few such advantages; for while his practice embraces the whole range of medical and surgical service, his opportunities for outside aid and improvement are meagre and limited. His resources are his self-reliant skill and faculty, his native good sense and good judgment, and what there is in him of heroic worth and virtue. With no ready chance for mutual counsel, he stands alone ; and he must of necessity be plucky, sharp of observation, cautious, yet with quick sense of apprehension. He must be capable of acting at

once, of doing the right thing at the right time, and of doing it as perfectly as possible. A human life hangs in the balance, and with what of courage, insight and ability there is in him, he must wrestle alone with the danger. Circumstances and exigencies like these ripen his native qualities, and bring him occasions which test the temper of his mental fibre as well as his firmness and force of character.

Then again, this work, with all its demands and difficulties, comes under the immediate notice of every one. The country practitioner goes at once to the front, to be seen and known of all. His qualities as a man, his capability to perform successfully the duties of his calling, will be sharply criticized by all. The people among whom he dwells belong mostly to that great middle class which holds together the extremes of society; intelligent people, capable of forming correct judgments. Before such judges stands the "country doctor," and there is no chance for hiding behind subterfuges, or for shirking responsibilities. No petty artifices will excuse blunders or stupidity; sharp eyes follow him every where, constantly observing, and discerning "what manner of man he is."

Dr. Samuel Johnson, in his criticism on Dr. Akenside, the poet, says: "A physician in a great city seems to be the mere plaything of fortune, his degree of reputation is for the most part totally casual. They that employ him know not his excellence, they that reject him know not his de-

ficiencies." In the country the case is far different. There the analysis of character and ability is more complete ; for there that distinction is less which comes from position and wealth ; and every one, rich or poor, man or woman, counts at a full rate in the expression of opinions.

But an attractive feature of country practice grows out of the free yet respectful intercourse, which constitutes one of the main sources of pleasure and help of country life. Known by every one, if intelligent and educated, possessing a warm heart and generous sympathies, "the country doctor" gains respect, esteem and love. He in turn learns to know his people — even better than they know themselves. He knows them from birth ; "knows what stock they are made of;" knows their constitution, their habits of life, their social and moral qualities, and their secrets too ; and, "king of health in his own regions," thus understands full well how to manage their physical ills deftly and safely. To them he is the friend, the comforter and the adviser ; and he becomes, what is growing rare in cities, the family doctor, in whom all confidences meet and rest, and in whom all hopes of human aid are centred in times of trial, sorrow and impending dissolution.

In every sense, too, he becomes a public man, and has a work outside his profession, and an influence to be exerted in all the various ways by which the interests of society may be advanced. In this way, also, a mutual esteem, full of tender sensibility and strong attachment, grows up be-

tween him and his fellow-citizens, which continues firm and lasting to the very end.

Living and trained amid such scenes and such varied duties, "the country doctor" gains "self-reliance, presence of mind, simplicity, readiness of resource and sagacity; and thus becomes an independent, self-contained man, capable, skilful and safe."

A long list of examples conspicuous for these qualities could easily be gathered from among our country practitioners — men of vigorous intellects and solid attainments, of good practical sense, of fervid enthusiasm and of patient endurance. Foremost among these in our New-England history was Dr. Nathan Smith. He truly was a rare man. From almost abject poverty he carried himself by his own efforts through a course of medical study at home, and then abroad at Edinburgh. Returning, he settled in a country town among the hills of New-Hampshire, where he spent a few years in the arduous duties of a "country doctor;" and soon became a wise and skilful practitioner, especially in the department of surgery. He was a close, sagacious observer; ingenious, full of resources, and well-informed in the best and latest knowledge of his time. The whole tone and character of his mind was self-reliant and independent. Genial and generous hearted, earnest in acquiring knowledge from all sources, and possessing a large share of what is of more avail than genius, that rare common sense which controls the practical affairs of life, his knowledge

was always at hand and ready to be applied in all emergencies. Removing to Hanover, he established the medical department of Dartmouth College. There for a dozen years he gave lectures, with occasional limited assistance in chemistry, in all the branches of medicine and surgery, while his reputation attracted students from all parts of the country. Besides his other labors, he published several important essays — and among them was that notable one, which at the time created much discussion, not to say opposition, on the "Treatment of Typhous Fever." In this short essay he promulgated, and insisted upon, a more rational method of treatment, a method which with some modifications is now, after the lapse of more than half a century, recognized as proper in the management of that disease. Thus constantly engaged, a man of thought and action, he became one of the foremost practitioners and surgeons of his time.

The names of other men will readily occur to you as representatives of the type of country practitioners which I have described. I might call over the Crosbys and Musseys, the Deans, Childs and Tullys, and scores of others, who as eminent physicians, teachers and devoted students in science, are illustrations of the fact that a doctor need not occupy a second place in his profession, though, as our poet has said, "reduced to practice in a country town."

The truth is, all things considered, no practitioner of medicine should be so thoroughly edu-

cated, clear headed, and quick witted, as the country physician. Thrown so much upon his own resources, he requires above all others a broad and comprehensive education which shall fit him for all emergencies. Nor should this education consist merely in the acquisition of a certain amount of knowledge accumulated by others, but it should be such as to enable him to make for himself exact observations and original investigations.

Most assuredly a country practice affords no hiding place for a poorly educated or incapable doctor. That there are such to be found in the country, as elsewhere, is of course true; but it is none the less true, we apprehend, that in a just estimate of the nature of disease and its remedies, and in the proper management and care of the sick for their restoration to health, the average country physician is, to speak within bounds, quite the peer of the average city practitioner.

The position which "the country doctor" holds in the profession has in it another element of importance. Through loss of time upon the road, and the want of frequent opportunity to make the more strictly scientific investigations for himself, he is too apt to take a large share of his scientific knowledge at second hand. Most of the chemical analyses required in his practice must be of a simple character if he alone is to make them, and for nice questions of pathology he must of necessity in a great measure depend upon the researches of others. But, aside from the work which be-

longs to the professional chemist and pathologist, he has his share in a kind of labor which is none the less important, either in its scientific aspects or in its practical value. As his practice is for the most part with a class of patients whose mode of life developes inherited vigor and robustness, he possesses under favorable conditions excellent opportunities, not only for observing the natural course of disease, but also of obtaining the best results from the remedies employed for its removal. It is therefore more especially his province to weigh carefully medical theories and scientific suggestions with the entire circle of comprehended and admitted facts—"the phenomena of the diseases themselves"—and to test fairly the claim of every thing that is regarded useful for their treatment; so that in this regard the "many things of which we are in doubt can be demonstrated, or at least rendered more probable."

The discoveries which have been made in both normal and morbid anatomy, the researches of chemistry, and the exact experiments of physiology have all contributed to the recent solid progress in medical science. Every organ, tissue, and fluid of the body has been made the subject of the most subtle experiment and research; while the functions of these organs have each in turn been subjected to the most careful study, and their characteristics explained. With instruments of precision and accuracy, modes of examination have been multiplied—resulting in clearer and more accurate methods of diagnosis, and affording stand-

ards of absolute comparison. All this increased knowledge has added immensely to a more complete understanding of the various processes of respiration, secretion, circulation, and nutrition, and of that intricate and complex nervous system which performs so important a part in the mysterious functions of life. In addition, this knowledge has defined within rational limits the methods of investigation of the organs and functions of living beings, and established principles which naturally lead to the further discovery of truth, and has "lifted the science of disease out of the plane of conjecture and placed it upon the basis of observed and undeniable facts."

Notwithstanding, however, this increased and more perfect science by which disease may be more clearly comprehended, the knowledge of the exact value of remedial agents, by which it is to be mitigated or removed, is still exceedingly imperfect and limited. Those medicinal measures by which this science and philosophy are to be reduced to therapeutic success are still singularly involved in perplexing doubts and uncertainties.

By chemical research many of these agents have been demonstrated to possess powers capable of modifying vital action, and thus to directly modify diseased conditions. By this research much has been done in rendering drugs more available in their essential qualities and ease of administration, yet with all this there still remains a much larger number of agents whose physiological action and whose therapeutical value and applica-

tion are by no means determined. This statement is applicable to old as well as new remedies; and they both require a more thorough investigation based on intelligently observed clinical facts. Tested by the present modes of chemical and physiological analysis, their practical uses being better defined and understood, much of the uncertainty and skepticism which now cumber and retard the progress of medicine may be more readily removed. There are no problems within the whole range of medical inquiry more difficult of solution than those involved in ascertaining the modes of action of drugs and their true therapeutic value.

It is only by a vigorous method of clinical demonstration that the difficulties and doubts which cluster around the "path in therapeutics" can be removed and substantial truths in this regard determined; and if there is ever to be a rational and philosophical method of treatment of disease, this can only be accomplished by applying to the department of materia medica a mode of observation and experiment similar to that by which the other branches of medicine have been brought to their present degree of perfection.

In such researches, so complex and obscure, progress can only be made by slow and laborious approximations. It requires far more of that subtle and dextrous keenness of mind to make a series of trusty observations in clinical medicine than in forming any number of hypotheses, however plausible. In dealing with such problems, "dashing speculations and vague theories are of

no avail, for these are neither philosophy nor science." It is only by cautious, laborious and steady observation and investigation that they can be apprehended and demonstrated. Any satisfactory solution of these difficult problems can only be accomplished by confining the inquiry within narrow limits, and subjecting it to frequent careful examinations in accordance with strict scientific methods.

It is in these more practical aspects that "the country doctor," as a general practitioner, comes into close relation with these researches, and it is by clinical observations and demonstrations, which he can the better make, in rigidly testing cases, that the essential or comparative value of the results aimed at can be attained; for of all those thus engaged in watching and estimating the practical effects of medicines, none have superior advantages, a better class of subjects, or patients under better conditions for the purpose. With such opportunities it comes most emphatically within the range of his labors to gather up and record the facts, in order that practical inferences and correct conclusions relating to these agents may be reached—as a worthy contribution on his part towards perfecting the science and art of his profession. This is indeed a work which pertinently belongs to "the country doctor." In no other way can he better subserve the interests of the profession than by collecting this great mass of observations and results which shall especially serve to determine right modes of treatment and

out of which definite rules of practice may naturally grow; so that "the art may indeed keep pace with and take the maximum of good out of science."

Within the limits of the membership of this society there are hundreds of active, working "country doctors," having under daily observation a multitude of cases undergoing medical treatment. The large proportion of these cases are probably similar in kind, and in manner of development; and the treatment to which they are subjected is probably of a tolerably uniform character. Yet in the treatment of this large number of cases how many careful observations and trials are there made for testing the utility of even a single drug, old or new, or in demonstrating any original or better method for their special or general exhibition? There can be no question that if a trustworthy and discriminative series of observations and results, respecting the properties, action and effects of remedial agents could be accurately and honestly gathered up—a matter which could be in a great measure accomplished through the combined labors of so large a number of "country doctors"—a great advance in therapeutical knowledge would soon be realized. Nor would it be long before there would grow out of this gathered material not only this more complete understanding of "the immediate and conjunct causes" and natural processes of disease, but also a philosophic system of therapeutics which would be in rational accordance with the

facts of pathology. Moreover, out of it would also grow a more perfect "union of the physiologist with the physician;" a union by which the affirmations and conclusions of science could be the better verified through the test of actual experience.

It is to this end that our efforts, and especially those of the "country doctor," should tend, not as naturalists only, but as physicians. For, however much one may have of that inward gift, that special sagacity and that force of practicality, the quickness of eye, tact and invention, previously alluded to, it is the well-stored mind, rich in acquired knowledge, which utilizes science and gives that "power of perceiving the minute differences and fine analogies which discriminate or unite" the various elements of the difficult problems requiring the physician's solution.

Certainly there can be no better or sharper incitements to labor, and to keep alive the fire of enthusiasm, Dr. Brown speaks of, than the being employed in noting and watching, with constantly accruing acquisitions, the discoveries of new truths or the confirmation of old ones.

But frequent reviews of our labors are also necessary and profitable. Says the Editor of The Lancet, with pertinent emphasis, "We all fall more or less into routine treatment, and no exercise is more beneficial to us as physicians than that we should be our own critics to test in all lights and ways the soundness of the conclusions we have arrived at, and of the details of the treat-

ment which we practise. Not the least advantage of such an attitude towards our own practice is, that it makes practice so much more interesting. The most ordinary case of illness methodically studied — which by the way can be done with very little fuss and loss of time — becomes a lesson to us more instructive than mere books."

What opportunity there is for the wholesome exercise of learning and applying such lessons during the long rides and tedious waitings of a country practice! On account of his isolation, "the country doctor" is especially liable to fall into this alleged routine mode of practice. It is one of the evil habits which grows out of his situation; and there is no better prevention for a slothful round of service, no better stimulation for inciting an increased interest in his work, than this self criticism of his own practice, The Lancet speaks of.

There is another habit which attaches to "the country doctor," and which not only detracts from his own professional and intellectual improvement, but involves a serious loss to the whole profession, and this is his apparent indifference in permitting the results of his experience, his acquired knowledge from years of practice, to run to waste. Many an intelligent and educated country physician lives a long life accumulating a deal of useful practical knowledge, and dies leaving no substantial record of it; while no one has more time otherwise unoccupied, or better opportunity for the study of cases, for carefully noting their peculiarities, for thoughtfully developing the conclu-

sions they lead to, and for earnestly keeping up those "strivings for truth which shall help the brethren." The old excuses, of "want of leisure, or inability to write," are but stale subterfuges unworthy educated men. Because one practises in a country town, it is no excuse for him to grow idle or selfish, and to do nothing for science, or not to add any thing to the common stock of knowledge. There is need enough for all to work in this wide field of medical culture, which is broad enough to occupy the attention of the keenest and best cultured minds, or to gratify the highest scientific ambition.

Imperfection belongs to all human efforts, and *our* work is no exception. There is no cause, however, for being dismayed in the expression of our thoughts, even if the balance of excellence in scientific or literary attainments be somewhat against one. It is well to remember that our labors and experiences, in city and in country, are not dissimilar, and that such doubts and fears and anticipated failures are common to all. The more we know of the scientific ventures and mistakes of others, the sooner we shall discover that our real differences in such matters are of small account. It is some satisfaction, as well as comfort, to find out how much the greater gods shrink on close inspection.

It is of right then that we work steadily and independently, with stubborn perseverance in our own circle, even if it is a narrow one, examining and thinking for ourselves, and plucky enough to

express our convictions though in never so homely a garb. The domain of our art lies all around us, and is patiently waiting for discoverers of its mysteries. Beneath its surface are hidden truths of precious worth, and we are but to search with earnest and diligent purpose to gather therefrom a rich return for our labors. As interpreters of the laws of physical life, and as "ministers and helps" in this divine art of healing, there rests upon every one, in the country as well as the city, the burden of his own share of the work; and he should constantly bear in mind the significant words of the great and good Sydenham:—"whatever others shall have done, I should always consider that my life had been given to me in vain while being employed in this work, unless I had myself contributed something, however small, into the common treasury of medicine."

Mr. President and Gentlemen:

According to our ancient custom, it is my duty in this hour of social reunion and festivity, to remind you of that tribute of respect and esteem that is due to those who have fallen from our ranks during the past year. Twenty-five of our brethren have been called from this mortal stage to that more perfect and exalted sphere which awaits us all beyond the tomb. The young in the full flush and expectations of youth, the middle aged in the strength of manhood, and the old man in the full ripeness of age, having all filled up the measure of their days, have crossed over the inevitable thresh-

old. Bound to us by fraternal ties, as honorable and worthy members of the profession, they are justly entitled to receive at our hands the full meed of commendation which of right belongs to the true and devoted laborer, the faithful friend, and the good physician. And here I cannot refrain, nor ought I, from making particular mention of one who has but just now unexpectedly and suddenly left us, — a brilliant example of "the country doctor." Four years ago, from this desk, he bade us with a wise conservatism to "Watch and Wait." In yonder hall, only a year ago, he presided with enviable grace at our festivities; and, on other occasions, his happy rhymes have added greatly to the enjoyment of the hour. Much as we miss him here from among us, to his townsmen and neighbors his loss seems well nigh irreparable. To them he was the faithful physician, the sympathetic, self-sacrificing and warm-hearted friend. He was faithful and devoted in all private virtues and duties, and served the public in the various offices of School Committee, Representative, and State Senator, with distinguished ability and rare fidelity. As a christian gentleman, his influence in all the benevolent and moral enterprises of the day was widely and efficiently felt. Those of us who, a short year ago, listened to his impressive reply to a sentiment, with "Brothers, good bye," will not soon forget the noble words and manly form of Thomas Newcomb Stone. Leaving to others the friendly task of speaking individually, from personal

knowledge, of other departed brethren, I would merely suggest that their absence should remind us that the same great change is imminent to us all. Death is ever busy, and his shafts are falling every where; but this matters but little, for his blow works not the end of being. This life is but the first, feeble, stumbling step in the long march of the eternities, leading onwards and upwards to the spirit home. The soul improved, purified, rising to heavenly altitudes, there finds full scope for its powers and aspirations. We are only to be mindful of our duties, that when called by the winged messenger, we shall have the sweet consciousness of having lived and acted uprightly and nobly amid the grand mysteries of human life.

SOME POINTS IN THE PATHOLOGY AND TREATMENT

OF

CHOLERA INFANTUM.

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SOME POINTS IN THE PATHOLOGY AND TREATMENT OF CHOLERA INFANTUM.

If during the last year out of every twelve deaths in Boston one had been from yellow fever, Asiatic cholera, or plague, every one would be alarmed; the legislature, city government, and medical societies would bestir themselves. But that was the actual proportion of the deaths reported from cholera infantum to the whole number of deaths of persons of all ages, and but little comment was excited. Yet the mortality from either of the dreaded diseases first mentioned, should they get a foothold in Boston, probably would never approach that from this common affection. We have got so accustomed to it that it is regarded as a necessary evil. But the advance of sanitary science and physiology may make it worth while to consider carefully from time to time our every-day diseases, and see if we are not better prepared to prevent or to fight them with the new tactics and weapons drawn from these sources, instead of using the consolations of philosophy for the annual loss under the old traditional methods.

With regard to this disease there is an opinion fast gaining ground that much if not all of it is due to causes largely within our power to prevent. As I do not propose to go into this branch of the subject, which is happily beginning to excite much attention here and abroad, I will quote but one passage from the excellent little book of Dr. John Simon, the chief medical officer of the Privy Council of Great Britain, on Filth Diseases, which was republished by the State Board of Health. He says, "In all filthy districts one particular class of diseases seems specially apt to stand in

relief—the diseases, namely, which in respect of their leading symptom may be generalized as diarrhœal. . . . The mucous membrane of the intestinal canal seems peculiarly to bear the stress of all accidental putridities which enter the blood. Whether they have been breathed, or drunk, or eaten, or sucked up into the blood-vessels from the surface of foul sores, or directly injected into the blood-vessels by the physiological experimenter, *there* peculiarly the effect may be looked for; just as wine, however administered, would 'get into the head,' so the septic ferment, whencesoever it may have entered the blood, is apt to find its way thence to the bowels, and there, as universal result, to produce diarrhœa."

In view of the great prevalence and fatality of this disease which the next month brings with it, under our present sanitary conditions, as surely as it does the white azalea or the water lilies, I have thought it might not be uninteresting to consider briefly in this paper its *pathology* and *treatment*, to see if these fields may afford anything new and profitable. Many of the standard books are somewhat disappointing in their chapters on cholera infantum. The pathology is not often very definitely stated. Were this done, perhaps modes of treatment more in accordance with the physiological indications thence deducible, and offering better prospect of success, would supersede the more or less blind and unsatisfactory methods often recommended.

Pathology.—The name cholera infantum is often loosely applied to various summer diarrhœas, but should be confined to that violent choleriform, gastro-intestinal catarrh of young children of which Leube says, in his article on the subject in Ziemssen's Cyclopædia, that "its symptoms so closely resemble those of Indian cholera that if one were confined to the observation of the individual case he could not say which it was." However the irritants or occasioning causes may differ, the weight of testimony of the best modern au-

thors is so great for the entire identity of the symptoms and of the post-mortem appearances in a severe case of this disease and of cholera morbus with those in Asiatic cholera, that I may safely treat of the pathology of the choleraic state in general, drawing my instances from cases of epidemic cholera also.

This condition becomes all too familiar to the physician during the weeks when the thermometer reaches 90° Fahr., when he may see a rosy, well-nourished, active child, with perhaps no warning beyond a very short stage of indigestion, suddenly seized with violent and profuse watery discharges, and soon after with vomiting of quantities of clear or slightly tinged liquid. There is coldness, pallor, pinched appearance, and even cyanosis of the surface, beginning at the extremities, but rapidly spreading to the trunk and head (which was at first remarkably warm), and the abdomen is a little distended. Notwithstanding the great apparent cooling, the deep rectal temperature rises to normal or above, according to the best authorities. The pulse is rapid, and becomes momentarily more difficult to feel. The thirst is great, the drink vomited. At the end of two days, or in extreme cases even of twelve hours, the child may be hardly recognizable as it lies faintly fretful or drowsy, the fontanelles sunken, the lids half shut over rolled-up eyes, pulseless, pale, and cyanotic, with sharp features and cold, clammy, and apparently wasted limbs, the abdomen relaxed, the skin wrinkled and inelastic, the urine suppressed, the upward and downward discharges less frequent or stopped, the respiration shallow, the breath cold, and perhaps alarming little premonitory twitchings of the limbs. In old times, when they used to bleed, it was found that only a drop or two of thick, dark-red blood would flow.

When matters have reached this state, the child will almost surely die, either by increasing sopor or by convulsions. Or, under favorable circumstances, before extreme

algidity and coma are reached, reaction may set in. In fact, one striking point about the state is that it seems to be self-limited if the patient can survive until the turning-point comes, which is usually not more than two and a half days at farthest from the onset. Then the patient usually begins to recover with great rapidity, unless a relapse occur or entero-colitis or other complication arises. The vomiting ceases, the pulse returns, the stools are less frequent and contain more fæcal matter, the pinched and wasted appearance of face, body, and limbs disappears, with the return of warmth, color, and natural perspiration. Urine reappears, the rectal temperature falls to normal, or a little below, as the surface temperature rises. After death in the extreme algid state the surface temperature may slowly rise to normal or above, the body cools off very slowly, and rigor mortis comes on late and persists long.

The post-mortem appearances show no structural changes except a swollen condition of the solitary follicles and Peyer's patches. Sometimes thickening of the blood and occasional slight ecchymoses under the serous membranes are found. The intestinal walls are injected. The large abdominal veins, the right side of the heart, and the pulmonary arteries are found distended with dark blood. The kidneys are congested, and sometimes the tubules are full of epithelium. The left side of the heart and the arteries are very empty, the membranes of the brain a little injected, the brain itself bloodless and sometimes œdematous. The lungs seem empty and dry, and collapse greatly. The intestine is full of clear or slightly turbid fluid like the discharges, consisting mainly of water and chlorides, with a little albuminous flocculent matter, showing under the miscroscope swollen epithelium and granular matter.

What, then, is the pathological condition that occurs? The collective symptoms of paleness, coldness, cyanosis of all the surface, and probably too of the lungs, together with

the internal objective and subjective heat and the immense activity of movement and transudation in the bowel, the suddenness of the collapse and apparent emaciation, and the equal suddenness of the recovery and the reappearance of heat and *turgor vitalis* would alone demonstrate, as plainly as any clinical phenomena could, that the main pathological condition was an entire change of the equilibrium of the circulation, namely, engorgement of the abdominal at the expense of the peripheral and respiratory organs. The post-mortem appearances put the matter beyond all doubt. In fact, it is a condition in many respects analogous to two other circulatory disturbances, syncope and shock, the pathology of which states are set forth at length in an interesting article in the *Practitioner* for October, 1873, by T. Lauder Brunton. Just how this disturbance of circulation is wrought is not certain, but a physiological explanation may be hazarded. To do this more clearly I will venture to very briefly state the received theories as to the innervation of the intestines.

A. Local ganglia have been demonstrated in the intestinal walls.

B. The vagi and the splanchnic nerves jointly preside over the stomach and intestines.

C. The vagi (sensory in their function) are the accelerating nerves of the intestinal tract. Their irritation produces increased movement of the intestines and also heightened secretion, and after their section, as demonstrated by Brodie and lately more completely by H. C. Wood, of Philadelphia, even the most irritant cathartics fail to act.

D. The splanchnic nerves are the restraining nerves of the stomach and intestines. They are so, probably, through their being also the vaso-motor nerves of the intestinal tract. Their section, as the experiments of Moreau proved, causes increased secretion and movement; in other words, corresponds nearly in effects to the irritation of the vagi.

Would not the following theory, then, meet the exigencies of the case, namely :—

That the cholera poison or irritant acts with special force on the places where it is most concentrated, namely, the gastric and intestinal mucous membrane ; that there its first action would probably be on the local ganglia, producing, we may suppose (since the existence of vaso-dilators is not yet proved) a local vascular spasm, which soon exhausts itself, and is succeeded by relaxation of the walls of the vessels, through temporary paralysis of the splanchnic nerve, resulting in strong congestion. This would cause greatly increased transudation into the alimentary canal and heightened peristaltic action. Moreover, the vagus, which, as above said, represents the sensory nerve of the stomach and bowels, would undoubtedly be irritated, hence causing increased movement of the bowels. The possibility of phenomena due to irritation of the vagi and splanchnic paralysis occurring at once from the same cause can be imagined when one considers how much sooner the contractility of the small muscles of the vessels innervated by the splanchnic would probably be exhausted than that of the larger constrictor muscles of the bowels. The poison, if absorbed to some degree into the circulation, could cause directly (or, if not absorbed, by reflex action) spasm of vessels remote from the seat of its extreme and paralyzing action, namely, the peripheral and pulmonary vessels. The blood, then, almost stagnating in the large central vessels and driven from the systemic arteries and left heart by their continued contraction, would accumulate in the right heart and pulmonary arteries. Hence the carbonic acid would increase and the oxygen diminish in the blood, and both of these circumstances have been found by experiment to increase peristaltic action. Finally, from prolonged irritation the vagus becomes paralyzed, and the stomach and bowels cease to act, and the left heart, not having blood enough to contract

upon, and suffering also in its nutrition from the condition of the coronary arteries, becomes paralyzed, or else the brain becomes œdematous, and convulsions occur. In cases that recover we may suppose that much of the poison having been eliminated, or having worn out its effects or lost its activity, relaxation succeeds the spasm in the exhausted muscular walls of the peripheral and pulmonary vessels, while those of the abdomen, after long dilatation, relieved of their load by the equalization of the circulation, gradually recover their tone.

So much for hypothesis as to the method of production of this pathological disturbance of equilibrium occasioning the alarming symptoms; of the fact we may feel reasonably sure.

Treatment.—The most ardent advocate of expectancy would admit that were it possible to remove the condition upon which all these phenomena depend, instead of trying to repress them individually, the former course would be as much more wise and desirable than the latter, as the mending a leak in a roof would be than the constant renewal of the rain-spoiled wall-paper, plaster and carpets.

I think it is not too much to say that we know enough of the main pathological condition to justify us in attempting to treat it directly, and that the newer treatments that have aimed at this object seem to have had success enough to justify a continuance of them. Certainly no patient looks a more unpromising subject for treatment than a child in advanced collapse from cholera infantum, and yet the change from all but death to life that may occur in a few hours, should reaction be brought about, is a fact as encouraging as it is surprising.

Steiner, in his excellent little hand-book of children's diseases, says of this disease, "Let the physician treat early and actively; inactive expectancy is nowhere more punished than here."

Prevailing Treatments.—Before speaking of the modes of treatment that seem most indicated by the known and suspected pathological conditions and to have stood the test of experience, I will briefly allude to those more in vogue, purposely omitting prophylactic treatment as a branch which opens too wide a field for the limits of this paper. In what follows, for reasons before mentioned, I shall speak of the choleraic condition, whether from sporadic or epidemic causes, as essentially the same state, and remedies effective in the worst form would probably, *a fortiori*, promise even more in the milder form.

Too many of the treatments proposed are symptomatic in the narrowest sense of the word. This is not true, however, with regard to the old *eliminative* treatment, which was at one time popular on theoretical grounds in the evacuant stage. Dewees is dissentingly quoted by Churchill as recommending "warm water to encourage the puking and enemata of warm water to clear the bowels," and even at present Goldbaum, a German writer, goes so far as to maintain that transudation is a favorable occurrence, and not to be interfered with.

It is difficult to see, with the now commonly accepted theories of the emeto-catharsis being due to an irritant, organic or inorganic, working specially on the intestinal tract, why this is not a conservative process by which the body endeavors to rid itself of the offending presence. It is not improbable that it is so to a certain extent, but clinical experience shows that this process may continue until it becomes the main source of danger.

Energetic diaphoresis is frequently recommended at the very beginning of the attack.

Either at the outset or after one artificially produced catharsis, almost all writers recommend opiates to check the discharges, some combining them with astringents, and some with chalk or lime-water, on a theory that an injurious

acidity prevails in the alimentary canal. These are continued, even in large quantities, into the stage of collapse.

Calomel was until very lately almost universally given in the first stage, with a view that it either was, or ought to be, beneficial in some way. The medical adviser, like Holmes's Rip Van Winkle, finished his directions thus :—

> " Last, with a dose of cleansing calomel
> Unload the portal system,—that sounds well ! "

Niemeyer, who considers it a sheet-anchor in cholera infantum, thinks that its good effect is only to be explained by its power to arrest decomposition and hasten the removal of irritating ingesta. Leube, in Ziemssen's Cyclopædia, recommends it as an efficient cathartic. Meigs and Pepper hold that it acts in the large doses commonly given as a powerful sedative, too powerful, they urge, for a depressing disease.

Subnitrate of bismuth in large doses is much recommended to allay irritation by its mildly astringent and sedative action. Small doses of nitrate of silver are tried with similar object.

Hydrochloric and sulphuric acids, the latter combined with ether as the elixir Halleri, carbolic acid, and benzoin are all recommended on antiseptic grounds.

Chloral hydrate has been given by subcutaneous injection for its sedative effect. Of its good results more will be said later.

Now all writers recognize the importance of water, but many fear to give it in any other form than ice-pills.

Spice poultices or sinapisms to the abdomen are recommended to check vomiting, and Niemeyer urges the application of frozen compresses to the belly. In the stage of collapse most authors advise alcoholic stimulants, usually the most rapidly diffusible ones, to be given frequently, in small doses, together with opiates, if the discharges persist.

Warm or hot baths have been recommended in this stage, sometimes with the addition of mustard. Intravenous injections of water, or salt and water, or of milk, have been resorted to in the worst cases, and even transfusion of blood.

Finally, the bad percentage of recovery when marked collapse has been reached, either in the sporadic or in the epidemic form, under almost all treatments, has led some writers to believe that the patient has the best chance of recovery who is let alone to wait for the natural turn of the disease, should his strength hold out, and only given a little ice, with perhaps mild opiates and very thin, bland nourishment.

In the third, or reactionary stage, great care is advised in the administration of nourishment and stimulants, for fear of occasioning relapse or favoring secondary inflammations of the bowels or other organs.

No writer of any merit on cholera infantum fails to notice the main importance of dietetic treatment, but ideas on this subject differ widely. Niemeyer urges, as of primary importance, the necessity of absolute withdrawal of nourishment for a time, urging that whatever is given before the irritant has left the stomach will surely undergo abnormal decomposition and increase the mischief. Few others dwell on this point, but, if the child is being brought up by hand, recommend either barley-water or some similar mild farinaceous nourishment, or else beef-juice, chicken-water, or finally raw beef, scraped and perhaps moistened with red wine. Others recommend artificial foods made with reference to the deficient power of a child's digestive fluids to convert starch into dextrine, in which that transformation has been made outside the body.

Treatment Recommended.—Now if the views set forth in the earlier part of this paper fairly represent the pathological facts, what would be a rational treatment of the choleraic state?

Waiving the question of prophylaxis and its corollary, the question how to directly destroy or neutralize the organic irritant (if such exist) after its introduction into the body, the first indication is to correct the dangerous and unfair distribution of the blood in the body, to which the purging, vomiting, cramps and coldness, seem to be directly due, and later the greater danger of coma, convulsions, or paralysis of the heart.

Second. If we fail in the first attempt, or do not succeed until late, we should supply the water and perhaps also the salts drained from the blood, as the thickening of the blood would prevent the good effects of the natural turn of the disease, should we have to wait for that, and perhaps dispose to various organic lesions.

Third. We should attend to general hygiene, diet, etc., of the patients.

As to the first indication, the problem is how to cause dilatation of the peripheral vessels and contraction of the overloaded abdominal ones. If we had any means of getting directly at the splanchnic nerves, we could probably by galvanization of them directly cause the contraction of the mesenteric vessels. Ludwig and Thiry found that after section of the spinal cord in the neck, whereby dilatation of the mesenteric vessels was caused, galvanization of the lower segment would cause extreme contraction of them. Possibly galvanization applied over the middle dorsal region of a patient might produce the same effect. Chapman maintains that he can occasion it by ice-bags applied to the spine, which he uses to check diarrhœas and reflex vomiting.

Brückner, a German writer, claims that cold sand-bags of moderate weight laid on the abdomen of cholera patients mechanically check the access of blood to the abdominal vessels and favor its escape. Transudation is thus hindered, and perhaps absorption is favored; moreover, the peristaltic movements of the bowels would not be so free,

These sand-bags might be used carefully, with hot applications to the extremities.

We have a much better chance of success, however, if we try to unload the abdominal vessels by relaxing the peripheral ones by means of strong derivatives applied to the surface. Steiner strongly urges baths of from 99° to 104° Fahr. in the algid state, combined with stimulants internally, and Leube, in Ziemssen's Cyclopædia, recommends the same. The distinction, too often neglected, between a warm bath and a hot bath is of vital importance here. No bath of less than 99° would be desirable. A writer in an English journal within a year or two, whose name I have lost, mentions his very gratifying success in treating the algid stage of Asiatic cholera by prolonged hot mustard packs. In accordance with this plan I treated three cholera infantum patients last summer, who were rapidly cooling off and assuming the characteristic pinched appearances of collapse, by suddenly wrapping them to the chin in cloths wrung out in hot water and mustard, with a blanket outside, and while thus mummied feeding them with plenty of ice-water and a little brandy. The pack was kept up half an hour or more, and during that time the change in the child's appearance was remarkable; the color and warmth returned to the surface, the tissues filled out, the features lost their pinched and old look, a natural perspiration broke out, the vomiting ceased, and the discharges grew less frequent. The mustard sheet was then withdrawn, but the child left enveloped closely in the warm, moist blanket. The pack in one instance had to be renewed at intervals, as a tendency to relapse manifested itself after some hours, but the condition of all mended in a marked manner after the first application, and all made a good recovery.

With regard to medication, if the choleraic state last any length of time, the blood must necessarily be altered by its drain of water and salts. Water, then, is the first

medicine indicated, and should be constantly given in the form of ice-pills or spoonfuls of ice-water. Small enemata of slightly salt water immediately after a dejection might help to supply the lost fluid. Should vomiting and purging go far enough to cause a fear that the blood was becoming too much thickened, intravenous injections of water should be tried, and if it were thrown in at a temperature of 100° the heat might help relax the surface vessels. Milk and blood have also been used, but water seems more indicated, as in this disease the blood loses little albumen and no corpuscles.

As to the administration of drugs by the mouth, the fact of the probable very slight power of absorption at that time is usually overlooked. It is found that belladonna introduced into the stomach in large doses will not dilate the pupils. The medicines, stimulants and food, then, can have little power in the present condition, nor yet help to bring on reaction, and if often repeated they may, when reaction sets in, be all greedily absorbed at once, and so do great harm, a fact to which Meigs and Pepper very properly call attention with regard to pouring in opium and alcohol in the algid stage. Internal administration of antiseptics has not so far seemed to fulfil the expectations of its advocates. As for calomel, it seems hardly indicated in the pure choleraic stage, unless there is the best reason to believe that some crude ingesta still present in the intestine demand a cathartic.

In the *Practitioner* of July, 1875, was a very striking article on the use of subcutaneous injections of chloral in the evacuant or algid stage of cholera, by Surgeon A. R. Hall, with accounts of cases treated by him and Mr. Higginson, another English army surgeon. The number of cases treated by these two gentlemen was large, and the onset severe and alarming, but they hardly lost a case. They injected two-grain doses of chloral diluted with ten

times as much water, into the arms and legs of patients, some in extreme collapse, and in almost every case good and speedy recovery ensued. Few patients had more than eight to ten grains in all. Mr. Hall's theory was that the vascular condition was due to extreme vaso-motor irritation, and that the usual stimulant treatment only heightened the difficulty, as was shown by its small percentage of recoveries, sometimes only eighteen per cent. So he looked about for a sedative to relax the general spasm, and tried chloral with the brilliant results above mentioned. It is interesting to know that the government in India have taken pains to publish and circulate Mr. Hall's happy experience in the treatment of cholera collapse. His method seems to be well vouched for, and I see no reason why it should not be applicable to the choleraic state in children, if the injections were given progressively and carefully watched.

One word, in conclusion, as to babies' food, though that subject has been so well treated at recent meetings of the Society that it is almost superfluous to say a word more. There is a point which I wish to allude to, namely, the great popularity among the rich and poor of *the nursing bottle with the flexible tube*. It is an invention of which Herod might have been proud. It is always in the baby wagon or the crib, in hot sun or close air. The child falls asleep with its nipple in his mouth. The mouth is usually never washed; the bottle and tube are, "with scalding water and with soda," so the mother says if you ask. Smell it and see what you think. Take a parallel case. What prospect could a man have of immediate and satisfactory recovery from cholera morbus, or even dyspepsia, who should eat soup, freshly made, perhaps, but out of a tureen which had been standing half a day with the remains of yesterday's soup in it, in a close room with a temperature of 90°; who, moreover, should never rinse out his mouth nor allow time for digestion, but should go to sleep with a piece of bread soaked

in soup in his mouth, and, if colic or oppression caused him to complain on waking, should at once take more soup out of the unscalded tureen? This is not an attractive picture, but it is a fair analogy. Is a teething baby's stomach stronger than a man's, that the doctor should tolerate the form of nursing bottle which encourages and contemplates a management of his diet exactly parallel to that in the unattractive picture I have just drawn?

VAGINAL LITHOTOMY.

By J. COLLINS WARREN, M.D.

OF BOSTON.

READ JUNE 14, 1876.

VAGINAL LITHOTOMY.

In August last I was requested by Dr. Alexander Jackson, of Plymouth, to operate upon a case of calculus in the female bladder. The patient was sixty-seven years of age, and when I saw her for the first and only time, on the day of the operation, was in bed, appearing much emaciated and pale. She had been suffering greatly with symptoms of cystitis for the better part of a year, and although previously healthy had become a confirmed invalid. There were no symptoms of renal complications. She was the mother of several children. The patient, being etherized, was placed in the position for lithotomy in the male, and a lithotrite was introduced into the bladder for the purpose of determining the size of the stone. The examination showed that it was not a small one, and in view of the degree of inflammation of the bladder and her advanced age I decided to remove it by vaginal lithotomy. The operation was thus performed with the assistance of Drs. G. Stedman and Jackson. A large bulb-pointed probe was passed into the bladder, and its end made prominent beneath the mucous membrane of the anterior wall of the vagina, at a point just behind the neck of the bladder. An incision was made into the bladder at this point, the knife cutting against the end of the probe. A pair of probe-pointed scissors were introduced into the opening thus made, and the incision was enlarged backwards along the median line to the extent of one inch. The stone was extracted by a pair of polypus forceps. The bladder was then washed out with warm water, and the edges of the wound were brought in contact with six silver wire sutures. A female catheter was re-

tained in the bladder and the patient left in charge of Dr. Jackson, from whom I subsequently learned that she at first did well and no urine passed through the wound. Two weeks after the operation there were symptoms of abdominal inflammation, and some leakage occurred through the wound. Two months later the condition of the patient had improved greatly, and under the application of caustic the slight fistula which still remained had closed, but had reopened at the end of forty-eight hours; Dr. Jackson had no doubt, however, that it would eventually close. Under the date of March 28th, Dr. Jackson writes, "Mrs. R. is about, feeling quite well, with the exception of a little cold recently." The stone[1] contained a nucleus, which was about the size of an almond shell, consisting of oxalate of lime, its surface being coarsely crystalline. The cortical portion which was broken into several fragments during the examination, was phosphatic. The weight of the stone was $214\frac{3}{4}$ grs.

Vaginal lithotomy, or vesico-vaginal lithotomy, as it is sometimes called, is no novelty, although the operation has been much more frequently performed since the treatment of vesico-vaginal fistula has been brought to its present degree of perfection. The employment of sutures to close the incision connecting the bladder with the vagina has placed the operation on an altogether different footing. The first operation was performed by Rousset in the latter part of the sixteenth century, in a case of procidentia and cystocele, in the cul-de-sac of which was found a stone. Fabricius Hildanus removed a calculus through a vesico-vaginal fistula, caused by its presence in the bladder, in 1598. The operation was performed in the last century and also in the early part of the present century, and was almost invariably followed by incontinence of urine result-

[1] Examined by Dr. E. S. Wood.

ing from fistula. Faure is, however, reported in 1808 as having avoided a fistula by cutting obliquely through the septum and thus making a valvular opening into the bladder. The first case in which sutures were employed to close the incision occurred, so far as I can discover, in the practice of Dr. Marion Sims. A fistula remained, however, which was subsequently closed by Bozeman. This is probably the operation performed by Sims in 1850. Vallet, of Orléans, employed sutures in two cases in 1856. An interesting historical account of the various operations for stone in the female is given by Hybord.[1] In 1853 Dr. William G. Wheeler,[2] of Chelsea, removed a stone through an incision through the septum weighing two ounces and three quarters, which had formed about a hair-pin three and one half inches in length. Sutures were not used, but the remaining fistula was closed many years afterwards by Dr. R. M. Hodges. Lithotomy was tried in this case without success. A case may be mentioned in this connection, occurring in the practice of M. Panas,[3] who extracted a hair-pin from the bladder by forcing it through the vesico-vaginal septum. The puncture of the septum occurred accidentally during efforts of extraction through the urethra. The pin was drawn into the vagina, straightened, and removed. In four days the patient left the hospital, no trace of the puncture remaining. Dr. R. M. Hodges performed vesico-vaginal lithotomy, some sixteen years since, closing the wound by sutures with complete success. Dr. Emmett has performed this operation more frequently than any other surgeon, and it is a curious fact that in nearly all of his cases the calculus had formed after an operation for the cure of vesico-vaginal fistula. In nearly every case the cystitis

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[1] Des Calculs de la Vessie chez la Femme et les petites Filles. Paul Hybord. Paris. 1872.

[2] American Journal of the Medical Sciences, xxv. 361.

[3] France médicale, February 26, 1876.

was sufficiently severe to necessitate leaving the opening unclosed after removal of the stone. In some cases measures were taken to prevent closure of the wound, and when this was not done the wound healed invariably within two weeks. Dr. Emmett[1] has treated a number of cases of chronic cystitis in the female by an incision through the vesico-vaginal septum. The wound was kept open by a hollow glass stud, not unlike a spool in shape. He thinks the operation, if resorted to before the disease has advanced so far as to involve the kidneys, is as free from risk as any in minor surgery. He is satisfied that any one who has the dexterity properly to crush a stone by the female urethra, can with much less difficulty close the fistulous opening after lithotomy.

This operation has rapidly increased in favor with many English surgeons. Mr. Aveling[2] was one of the first to call attention to its advantages when followed by suture. He gives a table of thirty-four cases, and adds one operated upon by himself. Twelve of these were performed by English surgeons. In all of them there is but one death recorded. In twelve given by Hybord no death occurred. Aveling believes that although lithotomy ought not to supplant the more simple process of dilatation and crushing, it should be employed when there is the least apprehension of incontinence. James R. Lane, Esq.,[3] operated upon a case in which the stone was nearly two inches in length, dividing the septum to within a short distance of the attachment of the vagina to the cervix uteri. The patient recovered eventually without a fistula, although the edges of a small portion of the wound had to be pared and sewed together subsequently. He thinks there is no part of the vesical parietes which may be incised with so little risk, and

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[1] Chronic Cystitis in the Female, American Practitioner, February, 1872.
[2] Obstetrical Transactions, 1864, v. 1.
[3] Lancet, January 10, 1863.

that this operation is the safest and best which has yet been devised.

This operation has not been confined to the adult. A number of cases have been reported where it was performed upon young children. Of these may be mentioned one by Dr. Thomas Smith,[1] the child being but five years of age. The incision was made and the sutures taken without rupturing the hymen. In a second case, in a patient ten years old, he made an incision through the fourchette before cutting through the septum; four sutures were taken in the vaginal wall and three in the perinæum. The patient recovered without incontinence. Dr. S. H. Tewksbury[2] removed a stone the size of a pigeon's egg through the septum from the bladder of a girl seven years of age. The vagina was dilated gradually and a small Sims's speculum was introduced, which brought the parts well into view. The sutures were removed on the fourteenth day, when the wound was found united. Dr. Tewksbury's paper contains much valuable information in regard to the history of the operation. He thinks dilatation of the urethra is available in females who have borne children.

The operation has been performed by a number of American surgeons. Indeed, it seems to have been done more frequently in this country than any other. Through the kindness of Dr. C. H. Mastin, of Mobile, Alabama, I have obtained the following list of surgeons with the number of cases operated on by them:—

J. Marion Sims	1 case.
J. H. Thompson, Washington, D. C.	2 cases.
J. W. Jones, Wilmington, N. C.	1 case.
Jno. T. Hodgen, St. Louis, Mo.	3 cases.
Christopher Johnson, Baltimore	1 case.
Samuel Choppin, New Orleans	1 "
J. M. Keller, Louisville, Ky.	1 "

[1] Lancet, December 17, 1870.
[2] Transactions of the Maine Medical Association, 1871.

A. H. Halberstadt, Pottsville, Penn.	2 cases.
Thos. Wood, Ohio	2 "
Thos. A. Emmett, New York	16 "
Paul F. Eve, Nashville	2 "
Charles Bell Gibson, Richmond	1 case.
Greenville Dowell, Galveston	1 "
Ferd. Herff, San Antonio, Texas	1 "
Total,	35 cases.

He speaks of six other cases, the names of the operators not being given, making in all forty-one cases.

I have recently obtained the notes of a case performed by Dr. H. O. Marcy, of Cambridge, in April, 1874. The patient since her confinement in February, 1873, had suffered from cystitis. After an attempt at crushing, having first dilated the urethra, and failing through the size and hardness of the calculus, vaginal lithotomy was performed. The incision was made in the median line commencing about one inch from the urethra, and was continued to include a small portion of the cervix uteri, to allow the extraction of the stone, which weighed over one ounce, and was rough and hard. It was chiefly phosphatic and contained as a nucleus a few fibres of cotton. The wound was brought together with fine silver sutures and united in its entire extent. A minute opening was left, however, at the point of entrance of one wire, which has not closed, although an attempt has since been made to close it.

It will be gathered from the testimony given above that lithotomy is not a difficult operation to perform on the female. This fact appears to have struck forcibly all operators at their first effort, and none more so than myself. The patient being placed in position for lithotomy, when the labia were separated the anterior wall of the vagina was seen hanging like a curtain at the mouth of the vagina. So superficial was this part that it could be incised and sewed with nearly as much facility as the perinæum. The

operation appears to be attended with little or no danger, hardly a single death being reported; on the contrary, in cases where the attending inflammation is severe we find that it not only removes the cause but exerts a curative influence upon the inflammation itself, provided we simply avoid using the suture. The only real danger is from a failure of union of the wound, and this with our present knowledge of the treatment of vesico-vaginal fistula has been reduced to a minimum. Incontinence resulting from this cause is far more easily remedied than that which follows from over-distention and paralysis of the urethra.

A very old method of removing calculi from the female bladder, and one which has been growing greatly in favor of late, is extraction through the dilated urethra. Franco[1] proposed this operation in 1561. Collot combined dilatation with crushing in 1669. This was a favorite method with Sir Astley Cooper, who performed it three times without incontinence resulting. Dr. Yellowly[2] mentions a number of cases where stones of extraordinary size have passed the urethra. In a case which occurred in his own practice the stone weighed over three ounces. In another case the patient, having suffered greatly and after having experienced "an uncommon weight and forcing" on one occasion, brought away, "with a noise which very much surprised the whole company," a stone seven and a half inches in circumference. In all the cases given by him there was permanent incontinence subsequently. This danger of incontinence appears to have been recognized at an early period. Tolet[3] found that if dilatation was excessive the fibres of the urethra could not contract, and incontinence followed. Brodie[4] says, "I suspect that there is no method of removing it entire from the female bladder with-

[1] Franco, Traité des Hernies, page 140.
[2] Medico-Chirurgical Transactions, vol. vi., 1815.
[3] Traité de la Lithotomie. Paris. 1708.
[4] The works of the late Sir Benjamin Brodie, ii. 649.

out incontinence of urine to a greater or less extent being a consequence of the operation." Vaginal lithotomy with suture was of course not then known. In three out of ten cases mentioned by Hybord there was incontinence subsequently. Mr. Bryant[1] reports two cases of calculus removed by rapid dilatation, which was effected by Weiss's dilator, a steel instrument with three branches, used, I believe, originally by Sir Astley Cooper. In his first case the shortest diameter of the calculus was one inch, and the age of the patient fifty-two years. In the second case, although the stone was caught in one of its shortest diameters, it measured with the forceps exactly two inches. The patient was thirty-five years old. In both cases was control gained over the bladder for several hours. Mr. Bryant has collected twenty-eight cases, in thirteen of which slow dilatation was employed and in fifteen rapid dilatation. Among the former there were four cases of incontinence; in three of these, however, the stone was very large; among the latter there were none. He much prefers rapid dilatation, and states that "in children calculi one inch in diameter and in adults two inches may be safely removed by these means." Mr. Bryant removed a lady's stiletto from the bladder, guiding it by the finger introduced through the urethra. No incontinence followed.

Spencer Wells cautions against dilatation. A large stone, he says, may be removed and no incontinence follow, but incontinence might result from the removal of a very small calculus. (In one of Bryant's cases of incontinence the stone was not large.) Incisions into the urethra he thinks more dangerous still, and mentions cases in the practice of a surgeon of large experience where it had been done in two adults and seven children, but "they were all dribblers." He prefers lithotomy. Lane is decidedly of the opinion that dilatation of the urethra should be employed

[1] Medico-Chirurgical Transactions, vol. xlvii.

only in the removal of stones of small size, the risk of incontinence being great and the result incurable. The facility of dilatation renders it highly tempting to the surgeon, while the safety and bloodlessness commend it strongly to the patient. The consequence is that it has caused many an unfortunate woman to pass the rest of her days in a loathsome and miserable condition. No stone, he thinks, larger than an acorn should be removed in this way from the adult and none larger than a horse-bean from a child. He condemns strongly all incisions into the urethra.

When a stone is suspected, Christopher Heath[1] does not hesitate to explore the bladder with the forefinger, previously introducing the little finger or dilating with the dressing forceps. He finds in all cases that have undergone this manipulation a split in the mucous membrane under the pubes and some incontinence for twenty-four hours. After this the patient ordinarily recovers complete control over the bladder. In one case a stone three-fourths of an inch in diameter was removed from a child, aged eleven years, through the urethra, and subsequently a fragment of a second stone weighing four hundred and eight grains. Incontinence in this case was permanent. For such a case he would recommend vaginal lithotomy. He cautions against the mistake of making the incision too small, the edges of the wound being bruised by a stone too large to pass through easily. He thinks there is no danger of wounding the peritoneum, even if the incision be carried up to the os uteri. In taking sutures both the vaginal and vesical walls should be included. He has operated three times : in two cases the wound healed by first intention ; in the third there was a slight fistula. In one of the successful cases the calculus weighed three and one half ounces. The ages of the patients were forty-nine, forty, and fifty years respectively.[2]

[1] Medical Times and Gazette, April 11, 1874.
[2] Transactions of the Pathological Society, vol. xxvi.

During the past year medical writers have had a great deal to say about the treatment of cystitis by dilatation of the urethra. Dr. T. W. Howe[1] reported a case of cystitis cured in this way. This article has brought out a series of communications by Dr. Pridgin Teale, in the Lancet,[2] which are not yet concluded. He and several of his colleagues have employed this treatment for some time past with satisfactory results. This method consists in slowly dilating the urethra by a Weiss's dilator until the fingers can be introduced into the bladder. It is noticeable that in three instances death occurred within a short time after the operation; there was in these cases, however, disease of the kidneys. Two cases suffered from incontinence afterward, and Mr. Teale makes the significant remark, "It does not, however, appear that the liability to permanent incontinence depended upon the degree to which the dilatation was carried." Hewestone[3] and Heath[4] have both written upon the subject. Dr. George Jewett[5] removed a crochet-needle by introducing the index finger into the bladder through the urethra. He noticed a slight rupture at the meatus during his manipulations, but there was no incontinence. The most accurate measurements which have been taken to determine precisely how much the urethra may be dilated without running the risk of incontinence are those made by Professor Simon, of Heidelberg, and published in Volkmann's *Sammlung klinischer Vorträge*,[6] in July last. He recommends smooth, hard rubber plugs of different sizes, by which, when combined with incisions of the orifice of the canal, dilatation may be accomplished without rough handling of the urethra. This limit is two centimetres or

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[1] New York Medical Record, August 14, 1875.
[2] Lancet, November 27, 1875. Dr. T. B. Curtis, Boston Medical and Surgical Journal, Dec. 30, 1875.
[3] Lancet, December 4, 1875.
[4] Lancet, December 11, 1875.
[5] Boston Medical and Surgical Journal, January 27, 1876.
[6] Translated in the New York Medical Journal, October, 1875.

.8 inch in width, and 6.3 centimetres or 2.4 inches in circumference. Dilatation to this size permits the index fingers of most surgeons to be passed with ease into the bladder. Simon's finger is small enough to enable him to pass at the same time a very slender instrument. A pair of polypus forceps, such as Mr. Heath uses, would, if introduced at the same time with the finger, as he recommends, stretch beyond this limit. A stone must obviously be a small one to be removed by an instrument delicate enough to pass so narrow a space. Hybord puts the limit of dilatation as high as three to four centimetres. Dr. W. W. Lawrence reports in the *Louisville Medical News* a case of stone in a girl five years of age. The urethra was dilated with the fingers, and crushing was combined with extraction. It is not stated whether there was any subsequent incontinence. Dr. D. W. Yandell reports in the same journal a case of bilateral urethral lithotomy in a girl eleven years old. The stone was crushed before removal, and weighed two ounces. There was perfect recovery. In a second case, a girl four years of age, the urethra was divided on a director a short distance behind the meatus, for the extraction of a uric acid calculus the size of a filbert. Incontinence is not mentioned. Dr. Herrgott, in an article in the *Annales de Gynécologie*, January, 1876, gives three cases in which dilatation was practised for removal of growths from the bladder. An instrument was introduced with the finger, and the operation continued in each case upwards of one hour. The limit given by Simon was not exceeded, and no incontinence followed. In one case the author contemplates removing a remaining portion of the growth through an incision in the vesico-vaginal septum. He mentions several cases where coitus was performed through the urethra. Mention of this fact has also been made by other authors. Incontinence of urine was not present in these cases. Notwithstanding that many suc-

cessful cases of dilatation, with or without crushing, have been reported, a high authority in this country expresses himself strongly against this operation. Dr. Emmett, in his work on vesico-vaginal fistula, says, "Comparatively, I do not regard the removal of stone in the female by the urethra as either a safe or a justifiable operation, in consequence of the great risk of incontinence of urine which frequently remains permanent. I have seen at least seven cases in support of this assertion for which no relief could be afforded, and in which I am satisfied that the accident had not resulted from want of skill on the part of the operator."

An interesting clinical lecture by Dr. Hunter McGuire[1] gives the history of a case of vaginal lithotomy in a negress forty years of age. The stone was two and a half inches in diameter. Ten wire sutures were taken and removed on the eighth day, a catheter being retained a few days longer for safe union. Dr. McGuire states that many cases of so-called successful operations by dilatation and extraction have, to his personal knowledge, been followed by incontinence, the term "successful" referring to the extraction of the stone. He says, "we all know how easily a surgeon can introduce his finger into the female bladder when the woman is under the influence of chloroform," "but it certainly is not always safe to do this." In a case at present under his care, a lady twenty-four years of age had been suffering with chronic cystitis, which resisted the usual remedies, and the physician had introduced his finger through the urethra to explore the bladder. Complete incontinence of urine followed. On examination he found the meatus contracted to probably its original size, but the vesical end of the urethra and mouth of the bladder loose and relaxed, with all sphincter power destroyed. He proposes to make a

[1] West Virginia Medical Student, May, 1876.

vesico-urethra-vaginal fistula by removing an elliptical-shaped piece of the septum, and to close it by silver wire sutures in the ordinary manner. He does not believe it is ever necessary to introduce the finger into the female bladder for the sake of diagnosis. A stone over half an inch in diameter should not be removed per urethram. He condemns urethral lithotomy as leading almost invariably to incontinence. Lithotrity, he thinks, is more difficult than in the male. The absence of the prostate gland and of the smooth fixed trigone which we find in the male bladder, the slight prolapse of the posterior wall found in almost all women who have borne children, the sometimes sacculated or perhaps displaced bladder, are some of the more important explanations of this difficulty. Byford is opposed to lithotrity for similar reasons. Dr. Savory, of Lowell, informs me that he has had a case of incurable incontinence following dilatation for the removal of a stone of small size.

Sponge tents have been employed to dilate the urethra for the purpose of removing calculi. They may be useful when the patient dreads anæsthesia, or when the stone is so small as to be voided spontaneously by the bladder on removal of the sponge. This occurred in a case in the practice of Dr. George H. Bixby, of this city, where eleven small calculi came away upon the removal of a sea tangle tent. Dr. D. H. Storer has lately removed a calculus in this way without incontinence subsequently.

Dr. Buchanan,[1] of Glasgow, has performed the operation known as lateral lithotomy on a girl six years old. The operation resembles closely that performed on the male. A rectangular staff being introduced and held under the arch of the pubes, an incision is made into the left nympha, care being taken to avoid opening the vagina on the one hand and cutting too near the tuber ischii on the other.

[1] Medical Times and Gazette, May 3, 1862.

The left forefinger, introduced into the wound, feels with its nail the staff, and the knife guided along the nail is passed through the neck into the bladder. In his case there was some difficulty in retaining the urine at the last account. Dr. Morton operated in this way on six cases, with what is stated to be a favorable result. Mr. Lane believes it to be an excellent operation, and admirably adapted for children. Dr. David Foulis[1] made a dissection of the bladder of a woman on whom this operation had been performed twenty years before, and who died of renal dropsy. A conical opening was found in the left labium minus, from which ran a canal opening into the urethra and also into the vagina. The patient had been able to retain her urine, however.

In examining the records of the Massachusetts General Hospital I find from 1821 to 1868 seventy-nine cases of stone reported, of which nine were in females. From 1821 to 1874, a period of fifty years, there were but ten cases of stone in the female. Of these calculi two were extracted through vesico-vaginal fistulæ, one being removed entire, the other being crushed previous to extraction. Five were treated by lithotrity, and in three cases the stone was extracted through the dilated urethra. Of the latter, one was a stone weighing two hundred and eighty grains; the urethra being dilated, it was seized by a pair of forceps and attempts were made to crush it, but without success. It was finally extracted through the urethra. Death occurred two days later, and at the autopsy the urethra was found considerably dilated, and in that portion below and a little to the right of the arch of the pubes was an irregular laceration more than one inch in length, extending into the bladder. It had the appearance of being due to sloughing of the part. The ureters were dilated and the kidneys diseased. In the two cases the urethra was found considerably dilated before the

[1] British Medical Journal, No. 786, page 115.

operation. In one a stone three-fourths of an inch in diameter was extracted and no incontinence followed. In one case three calculi were extracted, one being the size of a large peach-stone. There was a small fistula in this case, which was subsequently operated upon. The records of many patients operated upon during this period are not to be obtained, they having been treated as out-patients. Dr. C. B. Porter has recently removed a calculus from the female bladder through the dilated urethra. The calculus was partially crushed previous to extraction. Dilatation was not carried beyond Simon's limit. There was no incontinence.

There are several methods of treating stone in the female which have not been discussed in this paper. Lithotrity, for instance, has been scarcely alluded to. My object has been to contrast the operation of vaginal lithotomy with one which has been employed in a class of cases to which that operation is mainly suited, and to discuss the comparative merits of two methods of operating which are now coming into fashion.

Lithotrity is undoubtedly as simple and harmless an operation as any, in the hands of a skilful surgeon, provided its use is limited to a certain range of cases. It was attempted, as has been seen, in several cases where extraction of the stone was subsequently resorted to. I recall one case where this treatment was carried through a long series of sittings. The patient was cured of her stone, which was a very large one, but died, a few months later, of exhaustion. Vaginal lithotomy might have saved her. Large stones have been crushed and removed at one sitting, in both males and females. The alternative in the male is a capital operation; in the female, on the other hand, one which has been placed within the domain of minor surgery. We are not, therefore, authorized in females, as we are in males, to take any great risk. I think we may safely say, therefore, that

lithotrity should be confined to cases where the stone is neither large nor hard. Dilatation of the urethra combined with lithotrity would enable us, however, to remove a much larger stone at one operation than by lithotrity alone. The dilatation must be done rapidly but gently, and certainly must not exceed the limit given by Simon. (I do not think it is fully proved that we may not have incontinence following dilatation even within this limit, although such an occurrence is not likely.) If the stone be hard, but small enough, it may be extracted whole through the dilated urethra. If, on the other hand, the stone is large and there is much cystitis, or the patient is feeble, or we have reason to suspect trouble in the kidneys, vaginal lithotomy should be the operation. We should be on the safe side in giving this operation the benefit of the doubt when there is any question of choice. The age of the patient is not a contra-indication to the operation, although I believe that it is rarely necessary to perform it upon children, who bear lithotrity well. Vaginal lithotomy, it is hardly necessary to point out, is far preferable to the supra-pubic operation.

In conclusion, we may say that vaginal lithotomy, involving at the worst a danger completely within our control, may be employed in a much wider range of cases than it has been hitherto; while dilatation of the urethra, entailing, it may be, an infliction which it is beyond our power to remedy, should be practised with great caution, until we more fully understand the class of cases to which it is suited and have determined with greater certainty the limit to which it can be carried.

ARTICLE V.

A REVIEW OF MEDICINE,—
ITS WORK AND ITS WORTH.

BY JOHN RICHARDSON BRONSON, M.D.

OF ATTLEBORO'.

READ AT THE ANNUAL MEETING, JUNE 13, 1877.*

MR. PRESIDENT AND FELLOWS
OF THE MASSACHUSETTS MEDICAL SOCIETY:

As American citizens who have survived the first century of national life, and participated in its review, to regret its failures and to recognize its successes, determined to avoid a repetition of the former, and to crown the latter with still greater achievements, is it not meet as students and votaries in the republic of letters and the sciences, that we should devote this hour to a review of medicine, its work and its worth, and consider also our relation to questions external, yet of vital concern to medicine and to the American public as well? That medicine is not, and has never been regarded a luxury, but a necessity, history

* At an Adjourned Meeting of the Mass. Medical Society, held Oct. 3, 1860, it was

Resolved, "That the Massachusetts Medical Society hereby declares that it does not consider itself as having endorsed or censured the opinions in former published Annual Discourses, nor will it hold itself responsible for any opinions or sentiments advanced in any future similar discourses."

Resolved, "That the Committee on Publications be directed to print a statement to that effect at the commencement of each Annual Discourse which may hereafter be published."

clearly and positively declares. The earliest tradition recognized it a factor vital to its highest interest. Ancient history records its value, and subordinates it only to the question pertaining to *spiritual* life. Nay, there has never been a nation, or kindred, or tongue, where medicine has not been recognized and taught, by physician, priest or magistrate; however crude and superstitious its character, it has always kept pace with the physical and moral sciences of its age; and while we may be unable to trace radical improvement in any two consecutive eras, yet if we select distant periods for comparison, we shall find evidence of signal intellectual advancement and improvement, and that, too, prior to the knowledge of human anatomy, physiology and chemistry, when the human body was recognized as a homogeneous whole, and any variation from a physiological standard in any particular was regarded as the evolvement of a diseased condition embracing the entire organism. For down to the days of Hippocrates human anatomy was unknown except in its osteology, centuries after the Egyptians, the Romans and the Grecians had established a medicine, enunciating principles of hygiene, creditable to any generation antedating the last century. While these ancient nations were wading in the depths of paganism, here and there developed a mind that shook the universe of thought, to doubt, to wonder, to proclaim some new dogma, or revive some old superstition, till the advent of Æsculapius, who wielded an influ-

ence singular to contemplate; for while he attempted to establish medicine upon a plane of philosophy, he had recourse, in grave surroundings, to songs, to prayer and invocation to the gods, thereby repeating the most ancient of practices, and revealing a phase of character in perfect harmony with the superstitions of the times in which he lived. Yet he combined practical genius and wisdom with loyalty to the faith of his day, which won for him a reputation above all his contemporaries or successors, till the advent of Hippocrates the Second, four hundred years before the Christian era, who by common consent is denominated the Father of Rational Medicine. He arose in the majesty of unexampled strength, and threw off the shackles of superstition which enshrouded medicine, and enunciated a system of investigation, which the subsequent light of science affirms to be the only rational system that ever has or ever can be employed, to successfully cope with the innumerable problems which disease and its manifestations are calling upon medicine to solve.

Forbidden by the laws of his time to molest the human cadaver, his only knowledge of human anatomy was derived from a study of comparative anatomy and of human osteology. Nevertheless he was a voluminous writer, and wherever he confines himself to the study of disease, especially of inflammatory and periodic type, we marvel at the wisdom he displays. He describes pleurisy, pneumonia, intermittent and remittent fever, with an exactness that would do credit to the student of

the present century; and his antiphlogistic treatment of inflammatory disease has, in principle, a large discipleship to-day in rational medicine. He first taught the necessity of aiding and assisting nature in her recuperative efforts to throw off disease; a doctrine so sound that no physician of respectability will to-day do other than indorse it. He was so far in advance of his contemporaries, so radically original in his reasoning, so patient of observation, that at his death his mantle found no immediate successor; his sons attempted to assume it, but were unequal to the effort required; there were none to carry on his work, none to build upon his foundation principles for nearly a century, till the school at Alexandria was created, when and where his written works were gathered and taught, resulting in a new and vigorous discipleship, whose influence became world-wide and far-reaching in the succeeding centuries; and to-day we recognize him peerless in ancient medicine. His doctrines of "coction and crisis," and of "four primal elements," were rational, and philosophically applied, from his stand-point of observation, without the aids of science to guide him; doctrines embraced by the best minds of that epoch. Plato, Aristotle and Celsus endorsed him, and his "Collection" constitutes the most ancient authentic monument in medical science, well worthy of the study of any physician.

Early in the Christian era advances were made in medical science, based upon anatomical and physiological study. Galen came upon the stage

early in the third century, in the midst of severe dogmatic contests in medicine. The schools, and notably that of Alexandria, had done a grand work in the field of medical literature, which was manifested by an accession to medicine of a brilliancy of mind, unexampled with one exception in history. They also gave birth to an independence of thought and expression, culminating in new medical theories, with their necessary discussions and dissensions. It was in the midst of these that Galen appeared, and led medicine back to the more rational ground that distinguished the school of Hippocrates. He was a man of rare acumen, and possessed a power over mind and man rarely equalled. Having had the advantages of study at Alexandria, his scientific knowledge gave his influence, as a teacher and a dogmatist, a leverage and an authority that largely swayed the medical mind of the world for fifteen centuries.

From our stand-point of observation, his theory of disease, his pathology, abounds with absurdity, though more rational at that, than we find in any of his contemporaries. From his death to the close of the middle ages, medicine, in common with the other sciences, made but little advancement. The convulsions incident to the dawn of the Christian era, the wars and aggressions, the awakening of new superstitions, and the proclamation of Christianity, so absorbed and diverted the public mind as to cast a pall over medicine and its kindred sciences for centuries. The rise

and fall of medicine were typed by the rise and fall of empire; that of ancient Greece fell with the empire into temporary oblivion. The destruction of the library and school of Alexandria was succeeded by Arabic literature, and the foundation of the school of Salernum, which exerted an influence throughout Europe unparalleled at that day. When in the midst of its glory, early in the fifteenth century, the discovery of the art of printing, the invention of the compass, the telescope and the microscope, aroused occidental Europe to efforts in the field of literature and science, which she pursued with results at once eclipsing all previous efforts; schools of medicine were established by her upon a basis of scientific endeavor; her students increased with great rapidity; books and libraries multiplied. Latin and Greek literature were subjects of careful study, and their translations were of inestimable value. Hippocrates was restored in his purity. Galen and his compeers were carefully studied. Anatomy and physiology, during this and the next century, unfolded their mysteries to careful research as never before. Pathology and therapeutics, which had made but little advancement for centuries, were placed under contribution, and during the last quarter of this century pathological anatomy was for the first time made the subject of professional study, notwithstanding the prejudice to autopsies which prevailed in many localities. To Anthony Benivieni is entitled the credit of first suggesting the value of studying the traces

of disease upon the human cadaver; and he was ably seconded by Eustachius, Marcellus Donatus, Fernel and others, who gave to medicine in this department a literature truly fundamental and of permanent value. The foundation of chemical science was laid in this century also.

The seventeenth century constitutes an important epoch in medicine. The discovery of the circulation of the blood by Harvey was the first important event of this century. The establishment of this fact in medical science produced an immediate revolution in the domain of anatomy, physiology and surgery. The microscope was immediately utilized; the course of the blood corpuscles in the minute vessels was demonstrated, and the relation of the arterial and venous circulation was also established. Notwithstanding these discoveries, practical medicine and therapeutics failed for half a century to avail themselves of these fruits.

Paracelsus, Von Helmont and others had made such inroads upon rational medicine the century previous, that it required the mind of a Sydenham, Morton and Baglivi, to apply the lights of these scientific discoveries to rational medicine as promulgated by Hippocrates ; and they came to the rescue with a wealth of resource and perseverance of effort that reëstablished it on the foundation of observation and practical experience, from which it was never subsequently dislodged. Sydenham's accuracy of observation and sagacity in the treatment of disease, in an age when specula-

tion pervaded the entire realm of thought, entitle him to rank above every contemporary.

The next and last century was also one of great interest and excitement throughout European medicine, based upon the enunciation of new and conflicting pathological doctrines by men of consummate ability, who defended them from their varied stand-points with an earnestness and skill never previously witnessed in medical history. Stahl, Hoffman, Von Haller, Boerhaave, Brown, Darwin, and Cullen, were authors of theories, or systems of practice, based upon their varied pathology, which speedily drew partisans to each, and resulted in advancing the science by an elimination of error, and placing pathology upon a plane more nearly commensurate with its importance. For the entire century, Stahl and his expectant medicine were largely adopted in Germany and France, and to a limited extent in Great Britain; but in the latter, and in this country, Cullen held sway over all his contemporaries, partly by reason of his great merit, and partly by reason of the immense influence upon American medicine of Dr. Rush, who was an ardent disciple of Cullen, and edited his works.

Near the close of this century Edward Jenner immortalized his name by placing humanity beyond the most fearful of scourges known to ancient or modern times.

The history of foreign medicine, both ancient and modern, to the dawn of the present century, shows that it was confronted at every stage of its

advancement by obstacles other than those that are inherent to a solution of its problems and the revealing of its mysteries. Envy, jealousy and superstition, notably the latter, sought to contest its advance and to disparage its results. In view of this, it is worthy of the highest encomium for its perseverance under trial, and for the grandeur of its achievements. "It builded better than it knew." Some of the brightest gems in the crown of science belong to it, if not of its setting.

American colonial medicine had its birth at a period when European medicine was being agitated by rival pathologists, who had produced temporary professional anarchy throughout western Europe. Harvey's discovery of the circulation was unknown, and the profession was at sea, without compass, rudder or ballast, save those which Hippocrates and Galen furnished nearly two thousand years before. Laboring under these embarrassments, in a foreign land and an inhospitable climate, surrounded by a native savage foe, isolated from all the world except at long and uncertain intervals, we wonder that it survived the shock at all; but the law of necessity asserted itself. The clergy and the civil magistrate came to the rescue, and essentially repeated the history of trans-atlantic medicine in its infancy, though upon a plane of intelligence far in advance of the medicine of antiquity. For nearly one hundred and fifty years, till about the last quarter of the last century, our colonial medicine presents but little

of interest to the medical student. It was in full sympathy with the low colonial condition of its time, and as that rallied by associate force, by wealth of product, by increase of domain, by culture, by independence of will, medicine rallied to new purpose, and though having lost more than a century of time by isolation and other depressing influences, migration to and fro, and a war upon our northern frontier, gave medical and surgical accession to the colonies, which resulted in associate efforts to establish American medicine upon a plane more nearly in accord with European medicine. In 1754, Dr. William Hunter, of Scotland, delivered the first course of lectures in this country on anatomy and surgery, accompanied by dissections, at Newport, R. I. In 1762, Dr. William Shippen, of Philadelphia, delivered a similar course in that city, which culminated in founding the first medical school in this country, now the University of Pennsylvania. In 1768, the first medical college of New York was established, with a full corps of professors, all of whom were educated in Europe. This constituted the entire body of public medical instructors prior to the revolution. During the short intervening period they did good work in the profession, but gave way to the excitement incident to that event, and freely threw themselves upon their country's altar in its defence. Our profession figured honorably and conspicuously on the field of battle, and was ably represented in the councils of the nation at her birth. The Declaration of Independence in-

spired all along the avenues of thought a resolution to establish an independent literature as well as government, with results professional and otherwise, eclipsing those of any nation within the century. Immediately succeeding our independence, the old medical schools were reörganized and new ones established. The Medical Department of Harvard was established in 1782, and of Dartmouth in 1794, fully organized for professional work, with accomplishments of incalculable value to American medicine. During the first half of the present century medical schools multiplied with great rapidity, far too rapidly for the best interests of the profession. Dependent as they were upon students' fees for support, a rivalry for numbers was created, which resulted in lowering the standard of admission to an extent that sensibly affected the intellectual status of American medicine. Nevertheless, she has steadily advanced along the century, and to-day is recognized the peer of Europe in her general anatomy, surgery, chemistry and materia medica, and as advancing rapidly upon her in her specialties, which are of comparatively recent date upon our shores. These have been watched, and with many regarded with disfavor, as invading the precincts and disparaging the skill of general medicine in the public estimation. I can conceive of a subdivision sufficiently minute to justify this view.

Dr. Barnes, in the London Lancet, illustrates it by saying: "I have been recently honored by a visit from a lady of typical modern intelligence,

who consulted me about a fibroid tumor of the uterus ; and lest I should stray beyond my business, she was careful to tell me that Dr. Brown-Séquard had charge of her nervous system, that Dr. Williams attended to her lungs, that her abdominal organs were entrusted to Sir William Gull, that Mr. Spencer Wells looked after her rectum, and that Dr. Walsh had her heart. If some adventurous doctor should determine to start some new specialty, and open an institution for diseases of the umbilicus, the only region which, as my colleague Mr. Simon says, is unappropriated, I think I can promise him more than one patient." But bear in mind, gentlemen, this is British, not American medicine, of which Dr. Barnes is speaking. Our medical educators, who reflect the true intent of American medicine, demand a thorough theoretical knowledge of general medicine as an indispensable prerequisite to the adoption of any specialty. They recognize the law that the head, the heart, the lungs, and the digestive organs, are the great life motors, and have established relations with every fibre and tissue of the human organism, and in the study of disease must be recognized as the great factors in the economy of life, bearing vital relations to disease, wherever located ; hence a knowledge of general medicine is necessary to a knowledge of the reciprocal relations of these organs in their diseased manifestations.

Moreover, the rapid advancement of medicine in its literature and practical achievements, during

the last quarter of a century, is largely indebted to the scientific specialists, who are ornaments in general medicine as well.

I have but to indicate the names of Bowditch, and Kimball, and Williams, and White, and Knight, and Blake, of our own Society, in confirmation of my position; and till subdivision exceeds its present limits in this country, general medicine should welcome the specialist as indispensable to its own best interests.

Medical advancement in this country is due also more largely to the peculiarity of the American mind, to its restlessness, its aggressive character, its persistent determination to reach the ideal, regardless of the obstacles to be overcome, than to the didactics of our schools; for the fact is patent to all before me, that our system of public instruction has been unchanged till within a very recent period. The average school has repeated the blunders of its course of instruction for seventy years, though it has advanced with the profession in the recognition and proclamation of scientific results accomplished.

The medical student, fresh from the farm, the work-shop and the common school, matriculated upon the same basis as the bachelor or master of arts, and together for six hours a day, for four months, or the term, listened to scientific disquisitions upon theory and practice, surgery, obstetrics and therapeutics, before anatomy, physiology, pathology, materia medica or chemistry had revealed their first ray of light to their untutored,

uncultured minds, and nought but the genius of an American mind could have evolved and classified, from this crammed admixture of scientific lore, the fundamental elements of a medical education.

These errors of low standard of admission and order of instruction have been admitted and deplored for many years, till at last our own Harvard University has broken the fetters which years of custom had welded, and is the first to declare a new departure in her demands for a higher intellectual basis of admission, and a more rational, philosophical system of instruction. As a result she is universally acknowledged to stand without a peer in this country, both in her curriculum and system of instruction ; and though radical the change, it is but the prelude to an advance still to be made, which will place her along side of the leading universities of Europe. The medical profession of this commonwealth must rally to her encouragement and support in her every endeavor to elevate and advance her standard of matriculation; for view it as we will, our schools must type the profession where they exist. The science of medicine embraces so wide a field of research, that the most thoroughly trained and disciplined mind enters that of practice, to be often embarrassed by anomalies, which have not their counterpart in number or character in any other realm of observation. This fact alone furnishes an argument unanswerable for insisting that our graduates shall be more thoroughly qualified to solve them philo-

sophically. General principles, and not fixed laws, must govern the practitioner of rational medicine ; and he who is unable to comprehend a general principle (for want of proper discipline or otherwise), will fail in the application of suitable means to desired ends. While we concede that medicine does not furnish an exact science, nor can it till the laws of pathology become fixed, yet careful research and untiring industry have given a wealth of scientific results and principles, that challenge comparison with the world beside. Although therapeutics has hardly kept pace with the other departments of medicine, yet one has but to take the retrospect of a decade to learn that it too has made rapid advancement ; and to-day chemical science is furnishing its products for application in greater abundance and in more elegant form than at any other period in its history.

It is not my purpose to review American medicine of the present century ; her rapid advancement and the brilliancy of her achievements have been chronicled by able pens and proclaimed from kindred platforms, showing scientific products in value and number eclipsing many previous centuries. They confirm old discoveries, and voice new ones of inestimable value, that place medicine upon a foundation philosophical and indestructible. Yet the whole field of legitimate medicine has not been compassed; and I desire to call your attention to some of the waste places demanding immediate consideration and culture.

Clinical instruction, the "indispensable comple-

ment" of a thorough medical education, has never received that attention at the hands of American educators that its merits demand. It was the glory of ancient Greek and Egyptian medicine. Hippocrates gives clinical narrations, admirable for his time, in his first and third books on epidemics; but after the foundation of the school at Alexandria this method of instruction was abandoned, and for centuries we rarely find a trace of it, till the fifteenth century, which fact accounts largely for the sterility of medicine during this long period. Early in this century the first editions of the ancient works of Greek physicians were published, with the effect to restore clinical study somewhat in this century; but the physicians of this period were chiefly devoted to philological research, by which they were richly rewarded in the purity of a revived literature; though clinical medicine suffered temporarily as a result. In the sixteenth century it was taught in the St. Francis Hospital at Padua. Early in the seventeenth, it was taught in the university of Leyden, and in the last century clinical chairs were endowed in the leading universities of Europe; in the present century it constitutes, as it deserves, the leading feature in foreign medical and surgical instruction. The private instruction in this country has been chiefly of this character; but it has been sadly neglected by our professional schools and hospitals.

I regard careful, persistent clinical study by the student as indispensable to a thorough medical

education. Not that form of study that consists in running through hospital wards twice a week, in the rear of a learned professor, to see and hear and smell one knows not what; but a careful, daily bedside study of disease and its manifestations, supplemented by lecture and text-book, and a careful observation of the means employed, and their effects as well. This constitutes the only clinical instruction worthy of the name. Clinical medicine can be studied advantageously only in our larger cities, where, and only where, material as diversified as disease itself abounds.

The practical application of this view would necessitate the closing of our country schools, and should do so at once. It would bring public instruction within such limits as to more perfectly control it in the interest of a higher standard of studentship and a more perfect education. I may be pardoned if I seem to take radical ground upon this important question; for as a graduate of a country school more than a quarter of a century ago, my earlier professional life was daily embarrassed by a want of such practical training in bedside observation of disease, and the application of means thereto, as every large, well-regulated hospital furnishes to all who have eyes to see and judgment to appreciate and appropriate.

Hygiene and preventive medicine have received but little consideration from the profession of this country. Bowditch, Hunt, Toner, and a *very few* worthy compeers, may be justly considered the pioneers in this department of medicine. The

laws of established disease, have largely occupied the profession, to the exclusion of a study of the laws of *prevention*, till within the last decade. The necessity of private and public hygiene was recognized by the ancient medicine of Egypt, of the Hebrews and the Greeks, as a life and health factor worthy of their most careful study; and the success attending the medicine of these peoples was largely attributable to this fact. The Egyptian priesthood, in whom was embodied the medicine of that epoch, were the first to enunciate and teach hygienic medicine. Hebrew medicine, in the writings of Moses, embraces hygienic principles of wonderful sagacity for that age. The Grecians also entered this field of research. The topography of the country, drainage, irrigation, and a variety of other means, were considered for the prevention of disease. The temples of Æsculapius were located with especial reference to health-giving influences. The sick who were brought hither for treatment were quarantined (so to speak) for a greater or less length of time as their condition demanded. Greek medicine, as far as I have been able to discover, is entitled to the credit of the first written treatise on hygiene, entitled, "Airs, waters and places." During the middle ages this lapsed with general medicine. In the sixteenth century it revived in Europe, and since that time it has been given a large and constantly growing place in European medicine. The increasing density of our population and its cosmopolitan character, the

development of new territory, and with it new disease, or modifications of old newly typed and disguised, furnish a necessity for active work in this department of medicine hitherto unappreciated by general practitioners. The profession have here a subject worthy of its most careful and wise consideration. And the laity can be secured as aids in this vast field of sanitary science. Lemuel Shattuck, Esq., of this city, is an eminent illustration of this proposition.

It is a subject so broad and far-reaching in its scope that the professional and lay worker will be amply able to exhaust every resource at their command in departments widely differing in character, and yet resulting in fruits that can be utilized in the interests of science and a common humanity.

The Public Health and Social Science associations, though in their infancy, are doing a good work in sanitary science. Our State Boards of Health, especially that in our own commonwealth, are gathering a fund of scientific material of inestimable value to the present, and emphatically to future generations ; for the period is not remote when from this storehouse of material, popular sanitary literature will issue and be disseminated, as vital to the health and life-interest of every household ; and medicine must take the initiative in this matter. In the country districts, especially, it cannot longer escape the responsibilities attaching to this subject. The law constitutes the boards of selectmen health officers, in our mu-

nicipalities where local professional boards do not exist; and though they represent the average intelligence of our population, they have as a rule never given thought to the subject of hygiene, and hence are of little value, except as executive officers, to isolate small-pox, which is the only disease they recognize as coming within their jurisdiction, and happily that is of rare occurrence. Therefore the country is destitute of any organized force in this department of medicine. The district societies, conjointly with the parent society, are the natural allies of the board of state medicine, to study and report the endemics and epidemics, embracing their laws of development, originating external to the human organism, both geological and meteorological, the latter, by reason of the intervention of artificial laws, furnishing a prolific field for medico-scientific research.

The time and strength of American Medicine has been so largely absorbed in developing science for its own purposes, that it has given but little thought to questions that may be denominated medical politics, upon which hang its reputation in morals and its rights in legislation. In 1639 the colony of Virginia passed "an act" in the interest of educated medicine and the public also.[1] The colony of Massachusetts passed a law in 1649, which was repeated in the Duke of York's grant, in 1665, for the protection of the public against the medical impostor. But to New York belongs the honor of creating, in 1760, the first

[1] Toner's Annals of Medical Progress, page 50.

statute recognizing the right to protection of *both* physicians and people, entitled, "An Act to regulate the practice of physic and surgery in the city of New York."[1]

The preamble to this act expresses so perfectly the situation of to-day, that I venture to quote: "Whereas many ignorant and unskilful persons in physick and surgery, in order to gain a subsistance, do take upon themselves to administer physick, and practice surgery in the city of New York, to the endangering of the lives and limbs of their patients, and many poor and ignorant persons, inhabiting the said city, who have been persuaded to become their patients, have been great sufferers thereby; for preventing such abuses for the future, Be it enacted * * * that no person whatsoever shall practice as physician or surgeon before he shall first have been examined and approved" by specified authority. In 1767 the first general regulations for the whole state were adopted.

In 1772 the colony of New Jersey passed "an act" of similar import; the penalty affixed to its violation in each case was £5. In the year 1806, and at various periods since, till 1874, New York has legislated in the interest of educated medicine. Her present statutes bearing upon this question clothe the censors of the state and county medical societies with authority to examine every practitioner of medicine who has not a diploma or other satisfactory evidence of proper

[1] Harris's Abstract of the principal laws of the State of New York relating to the medical profession, 1875.

qualification, and to reject any not duly qualified. To practise medicine in that state without proper credentials constitutes a misdemeanor punishable by fine or imprisonment, or both, at the discretion of the judge trying the case. In the year 1872 the state of Texas passed a law, which was amended in 1875, regulating the practice of medicine and surgery within its borders. It compels every person practising medicine and surgery to submit to an examination in anatomy, physiology, pathological anatomy, pathology, surgery, obstetrics and chemistry. It provides for the appointment of a board of not less than three physicians by the judges in each judicial district. This law is being vigorously enforced throughout the state, with results as satisfactory as its friends had reason to anticipate. It will be observed that theory and practice, therapeutics and materia medica, do not come within the purview of this law; but persons educated in the branches of medical science embraced by this statute, may as a rule be regarded qualified to practise medicine. To have attempted to embrace the whole, would have prevented any enactment.

The legislature of New Hampshire passed "an act" in 1875, "to regulate the practice of medicine and surgery." By section 1 of that act each and every medical society, organized under a charter from the legislature of that state, shall at each annual session thereof elect a board of censors consisting of not less than three members, who shall hold office till others are elected, which

board shall have authority to examine and license practitioners of medicine, surgery and midwifery within the state, except practitioners who have at the date of this act resided five years in the city or town of their present residence. All persons found qualified by proper diploma or upon examination, are furnished a certificate of the fact by said board, which certificate must be duly recorded in the county where said practitioner resides, and may be revoked or annulled by the authority granting it. If the holder violates special provisions of the law, and attempts to practise without a certificate, it is made a misdemeanor punishable by severe penalty.

The State of Vermont passed an act in 1876, identical with that of New Hampshire, except that it recognizes *midwives*, and permits them to practise midwifery where they reside, and exempts them from examination.

A law of similar character, provisioned to conform to our peculiar requirements, would result to the advantage of educated medicine, and emphatically to that of the people.

This Society possesses the wisdom and the influence to draw, and cause to be engrafted upon our statute books, a law adapted to the necessities of this commonwealth; and that too before the expiration of another legislature. The medical profession has hitherto occupied a false position regarding questions legitimately hers. She should *direct* legislation upon all questions involving the public health; this is a right conceded to other

professions and occupations, where there is a substantial agreement among the parties in interest, as to the necessities for, and character of, the legislation sought. Then why not to medicine, when in the interest of a universal humanity? This commonwealth sustains an anomalous position relative to scientific medicine and the public weal, in view of her recognized culture, and her professed regard for and protection of the rights of her humblest citizen; for she pays no tribute to learning, to experience, to honest professional work, so far as statute law is concerned. The cultured and uncultured, the honest man and the knave, occupy a common level, and her citizens are permitted to be preyed upon, and robbed of their substance, their health and their life even, with impunity by charlatans who infest every city and populous town. The burglar, the highway robber, the midnight assassin, are recognized enemies to safety and good government, and severe penalties await the perpetration of their crimes; while an infinitely greater enemy to both has no recognized status under our criminal code of law; a fact demanding instant remedy by legislative enactment, prohibiting the practice of medicine and surgery by any person within this commonwealth who cannot give evidence by diploma from a legally organized medical college, or who upon examination by a competent legally constituted medical board, is not found to possess adequate knowledge of anatomy, physiology, chemistry, surgery, pathology, pathological anatomy, obste-

trics and medical jurisprudence. That society is infested by enemies who are wrecking the physical constitution, degrading society, and undermining the very foundation of our civilization, is patent to the most superficial medical observer; and no voice is heard in protestation, nor arm raised for protection.

Medicine has here a work to perform that it can no longer afford to shirk or ignore. Our guardianship of the public weal is neither self-appointed nor limited by diseased relation; but is inherent, and comprehends the health-interest of every community also. Permit me to call your attention somewhat in detail to some of the more important questions demanding the immediate consideration of medicine, with the view to establish principles upon which concerted action may be taken by the profession, comporting with its dignity and rights, and with their importance. The highest interests of American medicine are indissolubly associated with the physical, mental and moral welfare of the public, and that any agency that tends to the injury or degradation of the latter, involves the former, all will concede.

The next foe to which I advert, is the professional abortionist, who is plying his nefarious practice in every community, involving all classes of society, ravaging the folds of the flock all over our commonwealth, and nation as well, consigning mothers to untimely graves, and robbing the generations of their legitimate fruitage. There is not a physician of five years' experience in this

presence, who cannot point to broken, stricken households, or to wrecked constitutions, from this cause. The ethics of our Society voice its condemnation, and here and there it has been rendered effective by the trial and expulsion of the culprit ; but this has been a spasmodic demonstration, an exceptional act. If there are any of this class still within our jurisdiction, our first duty to ourselves, to the profession at large, and to humanity, is to arraign them and visit upon them condign punishment, and that speedily. But the large mass of offenders are vile charlatans, without our jurisdiction, who assume the title of doctor to deceive the unwary and replenish their coffers.

Medicine should at once proclaim itself upon this subject, in language and manner not to be misunderstood and worthy of a noble profession. It is a crime against the body politic that cannot be totally suppressed, but it can be greatly diminished, and the honor of the profession in the effort vindicated. The means to this end are, first, by creating in the public mind a realization of the physical danger attending its perpetration. Second, by efforts to elevate the moral sense of the public to a more adequate appreciation of its criminal character; and third, by causing a revision of our criminal code of law, that it shall recognize the wanton destruction of fœtal life a crime coëqual with maternal sacrifice.

Allied to this question is another of an importance to demand legislation, both state and national. I refer to the wholesale distribution of

quack medicines over our country—declared panaceas for every disease possible and impossible, within the limits of a single cover. These medicines are swallowed and applied to an extent fearful to contemplate, in view of their contents. Some contain narcotics, notably those prepared for childhood and infancy; some contain poisonous elements, destructive to tissue by continuous use; and some contain in large proportion alcohol; three powerful agents for good when rightly applied, or potent for destruction when used indiscriminately.

This has assumed the proportions of a monstrous evil, and yet its invasion has been so gradually and quietly conducted, that its presence has hardly been recognized by the philanthropist, who has with great vigor assaulted evils of comparatively little importance.

At the threshold of life, "soothing syrups" and "pain killers," in the hands of careless mothers and nurses, are proving the American Ganges to the infancy of this generation.

Nor is the curse limited to this class of our population. These narcotics, with "balsams, bitters, hair-restorers," and their like, are depraving taste and inciting functional and organic lesion among all classes to an alarming extent.

Nor do the responsibilities of medicine rest here. The educational system of our country, of inestimable value, constituting the chief bulwark of our civil liberty and of our republican institutions, when properly directed, has developed errors

of physical and mental discipline demanding the earnest interposition of medicine. The physiologist has long since discovered and called attention to these evils, but they have never been voiced, nor their eradication attempted by the medical profession.

Our school law recognizes children of from five to fifteen years inclusive, its wards; demands attendance at school for thirty hours a week, and forty weeks in a year. Our educators, desirous of obtaining the largest possible mental development, subject this plastic material to a strain in excess of nature's law of toleration, which must ultimate in physical and mental degeneracy; when by proper modification the interests of both would be subserved. The absurdity of subjecting the child of five years to the same physical discipline as the one of ten or fifteen, seems too apparent for discussion in this year of grace; but the fact remains, and medicine is called to solve the problem for its correction in the interests of humanity. The curriculum of study for the advanced classes in our schools embraces elementary anatomy, physiology and chemistry, and while exceptionally they are taught, as a rule they are ignored for the reason that the teacher has no adequate appreciation of their value. Instruction in these departments of science should be made obligatory, and not permissive merely. The importance of this question is too apparent to require elaborate argumentation in this presence; therefore the great necessity of urging upon our boards of edu-

cation attention to this subject with a view to its correction.

The question of mixed schools for the education of the American girls who have reached the period of puberty, is one worthy of earnest, immediate attention. The transit of girlhood to womanhood involves an important change in the physical, mental and moral constitutions; with mutual relations so intimate, that to neglect or pervert either, involves the whole ; a truth which renders this subject of great importance to the race whose motherhood of the generations is involved.

Dr. Clarke, an honored Fellow of this Society, in his "Sex in Education," has fully and admirably discussed this question. His portrayal of the evils resulting from an associate education with the other sex, viewed from a physiological standpoint, is clear, forcible and unanswerable. Our female seminaries, as at present conducted, are chargeable with violation of hygienic laws to an extent inexcusable and requiring instant remedy. They are devoted to education in the arts of polite literature, and give but little time or thought to conserving the physical forces. Chairs of hygiene, as well as physiology, should be established in every seminary of this class, and competent instructors secured for the work so long neglected in this department of science. I shall hardly be charged with exaggeration when I affirm that the average adult in this country knows less of his own mechanism and its governmental laws, than of any other science that has engaged the popular

attention, and to this fact is due the popular indifference to instruction in its fundamental principles.

The Germans have given the subject of physical and mental education of their children and youth an attention, and have furnished a system of instruction covering the entire educational period, more in harmony with the most advanced hygienic laws than can elsewhere be produced. German philosophy, applied to physical and mental science, has given to Germany a power and preëminence among the nations of the earth, illustrated recently in the Franco-German war, and long since recognized in the domain of science and letters, that she could not otherwise have attained.

Female membership to this Society is a question that has forced itself for solution, and will do so again. That a majority of the profession through our country look with disfavor upon female medical education is undoubtedly true ; and the arguments in defence of this position are numerous, well founded, and we believe unanswerable. That the women of the country concur with the profession overwhelmingly, is also true. But a small and aggressive minority entertain an opposite view. They believe that theology, law and medicine furnish suitable fields for female effort, and one of the number appears at our doors for admission to membership. She has been educated in all the branches of science contemplated by our by-laws ; her credentials are faultless ; she can sustain the most searching examination by our

board of censors; she is to assume the responsibilities of professional life; the public will give her its confidence, accept her services, bestow its emoluments regardless of our preferences or acts. What we may think of female or mixed colleges in the abstract is foreign to the question at issue; in that, we are essentially agreed; but we are organized in the interest of science and the public weal. We welcome a new scientific disclosure, regardless of origin or authorship; its value is not commensurate with either, but with its possibilities. Can we therefore go behind the exponent, to the color, race, or sex, without inviting and surely receiving severe criticism? And is not such position illogical, nay, indefensible from a scientific stand-point? Arguments, pro and con, of marked ability, from some of our ablest membership, have been made; legal interpretation of our rights to admit her under the act of incorporation has been invoked, giving an affirmative response; yet the antecedents of our Society are negative in spirit and practice. I do not share in the solicitude lest the women of this country are to drop from the high estate and sacred sphere which God, and civilization in its highest type of development, have placed them. I do not fear lest they unsex themselves by entering our dissecting rooms and by joining in surgical exploits. I have too much faith in the law of their effeminacy; in its immutability which they cannot transcend if they will, they will not if they can. Therefore, when confronted as a society by this mystery in

nature, armed with the mysteries of science, must we not admit the latter, if lost in amazement at the former ?

Efforts have been made to disparage this Society in the public estimation, by foes within and foes without, because of the exercise of a right inherent in every corporate body to prune and slough off any excrescence damaging to its vitality and to its dignity. These efforts have originated in quarters, and have been prosecuted with such pertinacity, as to induce some to question the wisdom of our course. The cry of persecution and of proscription was adopted for the purpose of intimidation, hoping thereby to stay the hand of justice in the execution of her decrees. Timidity always exhibits weakness, or guilt, or both, and most emphatically where principle is involved; and to hesitate or take retrograde steps in such an emergency, causes, as it deserves, the chagrin of friends and the contempt of foes.

As a Society we are united by cords of mutual responsibility and good faith, which can never be broken by a temperate and wise enforcement of our by-laws and code of ethics. They are our Magna Charta, and must be kept inviolate. They are wisely drawn and catholic in spirit. They permit the widest diversity of opinion and practice consonant with science. They frown upon all dogmas, pathies and isms, as frauds in their assumptions. Yet they appropriate and absorb all of truth embraced in either. They forbid professional affiliations with exponents of any exclu-

sive system or dogma as degrading to our science and damaging to our reputation. They declare there is but one true science of medicine, which embraces within its scope all truth, from whatever source derived, that can be applied to ameliorate human suffering, to promote longevity and the greatest possible physical, mental and moral perfection. They pronounce modern eclecticism a fraud, for it elects from a limited field in its materia medica and therapeutics. They declare hydropathy a fraud, because it converts water into a universal panacea, denying all philosophy and *drowning* all reason. They assert "allopathy" a fraud in significance and application; a creature of desperation, conceived by empiricism to disparage rational medicine before the judgment of the world. They denounce homœopathy as the giant fraud of the nineteenth century, and so do its nominal advocates and practitioners; for they repudiate its fundamental principles in their daily practice, and this duplicity constitutes their chief shame. Homœopathy, as taught by Hahnemann and his earlier disciples, was so grossly unphilosophical and inert, that the generation of its birth would have witnessed its death and consignment to oblivion, had it not been abandoned in the domain of materia medica, and therapeutics. With so powerful an ally as nature furnishes for the dislodgment of functional disease, homœopathy was compelled to abandon its tenets, or alarm and dispel the household of its faith; yet it has never risen to that plane of moral honesty to admit that

rational medicine is furnishing it principles of treatment and means for their application. In Germany, the place of its birth, and in France, that of its adoption, there are rarely to be found those so poor as to do it homage. In Great Britain it has maintained but a precarious, sickly existence, and is rapidly dying out, to pass into history with a reputation less enviable than its sister frauds, the royal touch, chrono-thermalism, and Connecticut Perkinsism; and in this country, though having abandoned its system while it still wears the cloak, it has passed the zenith of its power even in its disguise. The public mind has but to be illumined by these facts, to enable scientific medicine to mount to that plane of influence to which its merits have long since assigned it. Our duties to the public performed, we have no fears for the medicine to come. Pressing forward with the inspiration of the centuries behind her, she is prepared for new triumphs, and is filling all her opportunities with results rich in material, and grandly efficient in their practicalities. The collateral sciences are yielding their proportionate quotas, in enriching medical literature and in arming the practitioner for the daily conflicts of professional life. The work of rational, scientific medicine universally made known, its incalculable worth will be acknowledged by the race who constitute our constituency.

And here let us pause in our festivities and pay homage to the honored dead.

Since last we met, the sickle of the destroying angel has entered our circle, and consigned to another and larger circle beyond the shores of time, some of our ablest and best ;—the veteran in years and accomplishments; those in the meridian of life; and the young in the midst of their hopes, while reaching forth with all the ardor of youth to a name and fame in this their chosen life avocation. Death is no respecter of age or acquirements ; all must bow alike to its decrees. While we cherish the memory of all of our fellowship who have deceased during the year, I might seem derelict in the duty custom imposes upon my position, did I not recall the name of Channing,[1] who for scores of years upheld the banner of our profession as teacher, practitioner and Fellow of our Society, dying at last full of years, with a life-work behind him worthy of the highest emulation; or of Morland,[2] cut down in middle life, in the midst of his strength and usefulness, leaving no physical lesion to tell us why ; or of Buckingham,[3] the sound of whose voice has hardly died upon our ears in promulgating and defending scientific medicine, a beloved instructor, a successful practitioner, an honest man, whom to know was to respect and love. Let us, in recounting the memories of these, and of

[1] Dr. Walter Channing, died July 27, 1876, aged 90.
[2] Dr. William W. Morland, died Nov. 25, 1876, aged 58.
[3] Dr. Charles E. Buckingham, died Feb. 19, 1877, aged 55.

the others who have passed from death unto life from our fellowship, so live, that when our summons comes to go hence to join them, we can lay down our armor, conscious of having fulfilled our obligations to diseased humanity, to each other, to society in its highest and noblest relations, and to God who is able to give us the victory over sin and death, and reward us with a crown of everlasting life.

ARTICLE VI.

HINTS IN ETHICS AND HYGIENE.

BY FRANCIS MINOT, M.D.

OF BOSTON.

READ AT THE ANNUAL MEETING, JUNE 12, 1878.*

Mr. President and Fellows
of the Massachusetts Medical Society:

In addressing an audience whose lives are mainly spent in efforts to relieve human suffering, to save and prolong life, and to prevent disease, it seems hardly necessary to allude to the importance of the Medical Profession to the public. With some pride we can claim that the Massachusetts Medical Society has ever been as active in promoting the welfare of the community as in furthering the interests of its own Fellows. From its foundation it has maintained the importance of a sound medical education; of disseminating a knowledge of the laws of Hygiene and of pointing out their practical application; and of denouncing everything which tends to degrade public as

* At an Adjourned Meeting of the Mass. Medical Society, held Oct. 3, 1860, it was

Resolved, "That the Massachusetts Medical Society hereby declares that it does not consider itself as having endorsed or censured the opinions in former published Annual Discourses, nor will it hold itself responsible for any opinions or sentiments advanced in any future similar discourses."

Resolved, "That the Committee on Publications be directed to print a statement to that effect at the commencement of each Annual Discourse which may hereafter be published."

well as private morality. Every great undertaking in this State for the prevention of disease and for the preservation of health, either originated with Fellows of this Society, or was mainly indebted to them for its accomplishment. The discovery of Vaccination was hardly made by Jenner, in 1796, before the practice was introduced into this country by two Fellows of this Society, Benjamin Waterhouse, of Cambridge, and James Jackson, of Boston. The successful demonstration of the anæsthetic properties of Sulphuric Ether, but little inferior (if at all so) to vaccination in its beneficent effects on our race, was also made under the auspices of Fellows of this Society. The valuable series of Reports of the Massachusetts State Board of Health, which have done so much to awaken public interest in sanitary matters, to expose the sources of disease in our Commonwealth and to point out the means of remedying or preventing them, have been likewise, in great part, composed by our members.

It is a matter of congratulation that, as it approaches its centennial anniversary, the Society was never more active in promoting the great objects of our profession than at the present moment; and as the advancement of medical science with a view to the welfare of mankind has always been one of its chief aims, so both at the annual meetings of the parent Society and at the more frequent gatherings of its district branches, the papers which are read and the discussions which follow them mostly relate to recent advances in

Medicine, and to the best methods of the treatment of disease. At no time have we been animated by a more harmonious spirit. Financially, we never were more flourishing.

It is useful from time to time to take a general survey of our position, in order to see in what way our efforts may be profitably directed for the advancement of medical science and for the promotion of human welfare. We shall thus be enabled to detect such deficiencies as may exist, and to discuss the paths which lead to further progress. The brief time at my disposal will only allow me to glance at a few important topics, and I will first call your attention to the subject of Medical Education.

Fifty years ago there was, properly speaking, in this State at least, no such thing as Medical Education, in the sense in which we now understand it. Medicine as an art consisted mainly in the treatment of disease by what were considered Specifics. A knowledge of this art was obtained by observing the practice of those who possessed some experience in the management of the sick, by reading the few medical books that were at that time attainable (mostly theoretical), and in fortunate instances, by attending a short course of lectures on Anatomy and Surgery, Midwifery and Theory and Practice, the Theory often occupying as much or more time than the Practice. The idea of studying the natural history of disease had not occurred to any one. Disease was not looked upon as a perversion of health, but as a separate entity,

a parasite, living at the expense of the body, and requiring to be expelled from it, if need be, *vi et armis*. Neither Physiology nor Pathology was known. Chemistry was in a rudimentary condition, Hygiene had not been born, Therapeutics consisted in the administration of drugs, sometimes inert, but often violent in their action, and preceded in the majority of cases by venesection. After receiving his license to practice, the physician had to depend in great part upon his own experience for improvement in the knowledge of his art, and not having enjoyed the advantages of clinical instruction, not having been taught what to observe and how to observe, his progress must often have been slow. Medical Societies and Medical Journals, by which new views and new discoveries are constantly presented to the profession for examination and discussion, and to which the advancement of medical science is so much indebted, were available to few practitioners at that time. Hence his experience demanded almost a lifetime, before he could acquire the confidence of the public and earn his own living.

Although medical education has made great progress since that time, especially within the last few years, their remains still much to be done. Yet in one respect the Medical School of Harvard University, so far as I know, stands alone. It is the only institution in this country in which the science and art of Medicine are taught methodically, beginning with first principles and ascending gradually to higher branches, the student being

required to pass a written examination at regular intervals before he can advance any farther in the course. The advantages of this method of instruction are as obvious in the teaching of Medicine as in that of any other study, and it is surprising that it should not have been sooner adopted in this country. The experiment has been fully successful, as shown in the increasing number of students, and the superior attainments of the graduates. The Faculty have also decided to adopt a plan for raising the standard of qualifications in the students by means of an examination in languages and natural philosophy, which is required for the admission of those who are not graduates of a college. This is hardly a less important step in the right direction than the other, and cannot fail to have a favorable influence in elevating the character of the profession in our State. The first examination was held at the beginning of the academical year which is just finished, and we are not yet in a position to judge of its effects, but the indications are encouraging, and there can hardly be a question of its advantages, I may say, of its necessity. The rapid progress of medical science makes it imperative for students to be well prepared in general acquirements before entering on their professional course. The result will be an improvement in the class of applicants, and the graduation of men of a superior quality. Hitherto, a considerable number of applicants have not been graduates of any college, were unacquainted with any language save their own (and some imperfectly

with that), and had no knowledge of natural philosophy, natural history or chemistry. It is true there have been eminent physicians who received but little preliminary education before commencing the study of their profession, but these are men of unusual abilities, who are able to supply the deficiencies of their early training by superior powers of acquisition. They are exceptions to the rule that a sound medical education must be founded upon habits of study and observation, with a certain amount of elementary knowledge, such as is taught in our higher colleges. Moreover, students who are deficient in these respects act as a hindrance to others who by previous training are capable of profiting by a higher grade of teaching. Although a knowledge of ancient languages is not considered absolutely necessary to the student of medicine, few will deny its great utility as a means of mental discipline. Familiarity with French and German are now indispensable to an accomplished physician, and it is of the utmost importance that a thorough acquaintance should be made with these languages before beginning medical studies, which leave but little time for such extra work. It is to be hoped that ere long both will be required at the preliminary examination.

The period of three years has become too short for the pursuit of all the various branches which are now requisite to a medical education. The day is so completely occupied with lectures, recitations, clinical conferences and other exercises, that sufficient time is not left for study and for dissecting.

Yet some important branches are too much neglected in our course. A very large amount of the practice of the average physician is concerned with the diseases which are peculiar to women and children. The time cannot be far distant when it will become necessary to make these subjects prominent features in our curriculum. There is no clinical instruction in mental diseases, a class of maladies which seems to be rapidly increasing in our community, as well as in other countries. It is strange, considering the large amount of material in the public institutions of this city and its neighborhood, that there is, as yet, no disposition to make it available for this purpose. Another great want in our school is clinical teaching in Obstetrics. We are obliged to depend on the opportunities afforded by dispensary practice, aided by the limited resources of the Boston Lying-in-Hospital. A liberal endowment to this institution, with the liberty of using it for the purposes of teaching this branch of medicine, would be a great advantage to the Medical School and a blessing to suffering humanity. It is but justice to say, that owing to the untiring zeal and industry of the Instructors and Assistant Teachers of the School these deficiencies are less felt than would seem possible. It is obvious that such a development of the instruction as I have indicated will require a longer term for its accomplishment than is now at our disposal, and that an extension of the course to a period of four years is only a matter of time.

In consequence of the development of nearly all

the departments of study and of the introduction of new ones, the School has outgrown the Medical College in North Grove Street, and it has become necessary to transfer some of its laboratories to a neighboring building. Even with this relief, however, a pressing want of accommodation is still felt, and, moreover, the plan and construction of the edifice are extremely faulty and ill-adapted to the purpose for which it was designed. This inconvenience finally became so great that in 1874 an effort was initiated to raise a sum of money for erecting a building which should enable the School to carry out its projected improvements, and to insure the safety of its precious Museum and other collections which are now exposed to imminent risk from fire. A liberal response was made to this appeal to the friends of Medical Education, a sufficient amount having been subscribed to warrant at least the beginning of an edifice suitable to our wants, as soon as a proper site should be found, a matter of greater difficulty than was anticipated.

The subject of the admission of Women as students in the Medical Department of Harvard University has more than once been brought to the attention of the Corporation, who have hitherto declined to grant this privilege, chiefly on the ground of the increased expense which the innovation would entail, and which there was no means of defraying. Recently, a considerable sum of money has been offered to the University for the use of the Department, on the condition that female students be admitted on an equal footing with those of the

other sex. The amount thus tendered is not considered sufficient for the necessary outlay which must be made in order to carry this proposal into effect; but there can be no reasonable doubt that enough money would be forthcoming from the friends of female medical education, if it should be considered advisable to try the experiment. The matter is now in the hands of the Overseers of the University, and probably some months will elapse before the question will be definitely settled.

It may be asked what advantage there would be in admitting female students to the Harvard Medical School? The answer is, that a considerable number of women are graduated every year at inferior schools, to the disadvantage of the Profession as well as of the Community. If we are to have female physicians, they should be at least well educated.

The question of the admission of women to Fellowship in the Massachusetts Medical Society, has already come before the Councillors in previous years, who have decided against them. Should Harvard admit them to the school, and give them the degree of Doctor of Medicine on examination, a fresh appeal will undoubtedly be made, and if I read aright the signs of the times, with ultimate success. The prestige of M. D. from Harvard, together with the pressure of public opinion, now beginning to permeate the medical profession, would probably enable them to overcome the barriers which have hitherto opposed them, though the number who would be able to pass the exami-

nation required for admission is at present probably limited. Even Fellowship is not necessary to make female practitioners eligible to consultation. The By-Laws do not forbid us to consult with respectable practitioners who are not Fellows; and, in point of fact, Fellows of the Society do freely consult with well educated and respectable female physicians in Boston and elsewhere in the State.

One of the principal objections to granting to women the privilege of admission to the Society would seem to be the danger that incompetent candidates would be able to pass the examination in certain Districts in which the requirements might not be rigidly exacted; but the number of applicants in such Districts would be small, females being less able to compete with males in country practice, and generally seeking large towns as a more suitable field for their labors. On the whole, the main reason for granting Fellowship to women would seem to be simple justice. Those who are able to fulfil all the required conditions ought not to be refused on the plea that others not qualified might occasionally obtain admission; the same argument might be adduced against the admission of the other sex, and we all know what would be the result if it were enforced.

How far women are likely to succeed as practitioners is a question which can only be answered hereafter. In most large cities there are a few who have deservedly achieved eminence. Perhaps the limited proportion of these may be accounted for by the difficulty of getting a good education,

but I am of the opinion that the number of competent female physicians will always be small. An eminent writer of the present day has said, "Intellectually, a certain inferiority of the female sex can hardly be denied, when we remember how almost exclusively the foremost places in every department of science, literature and art have been occupied by men, how infinitesimally small is the number of women who have shown in any form the highest order of genius, how many of the greatest men have achieved their greatness in defiance of the most adverse circumstances, and how completely women have failed in obtaining the first position, even in music or painting, for the cultivation of which their circumstances would appear most propitious. It is as impossible to find a female Raphael, or a female Handel, as a female Shakspeare or Newton. Women are intellectually more desultory and volatile than men, they are more occupied with particular instances than with general principles; they judge rather by intuitive perceptions than by deliberate reasoning or past experience."* As exceptions, a few gifted women will be able to maintain a high position in medicine, in competition with the intellectual and physical vigor of the male sex. The majority, in my belief, will devote themselves chiefly to the obstetric art, and the diseases of children, among the poorer and middling classes. They will be inadequately remunerated for their toil, and in dangerous emergencies

* W. E. H. Lecky, History of European Morals from Augustus to Charlemagne, Chap. V.

and discouraging situations will be compelled to seek the assistance of male practitioners. Yet there are multitudes of women with scanty means of subsistence who would gladly accept this lot, and we ought to be ready to aid them in obtaining such a professional training and such professional sympathy as shall make them competent to their duties, and enable them to supplant the ignorant charlatans who, under the guise of female physicians, lend themselves to the vilest criminal practices, and are a curse to the people.

The subject of Public Health offers many topics which are especially appropriate for an occasion like this. A large amount of sanitary work has been accomplished by the State and Municipal Boards of Health, whose labors in investigating the conditions which favor the spread of disease and shorten the duration of life deserve our warmest thanks. These endeavors are sometimes thwarted by the efforts of interested parties to prevent a desired reform, and in many cases the apathy of the public offers a discouraging obstacle to sanitary improvement. I can only mention a few points, of much importance to the welfare of the community, which ought to attract the attention of every Fellow of this Society.

The law concerning Death Certificates is defective, and requires amendment in order to prevent fraud and crime. The object for which these certificates are required is two-fold:—First, for the purpose of preventing secret burials in cases of death from violent causes or under suspicious

circumstances. Secondly, to secure trustworthy statistics in relation to the prevalence, the causes and the mortality of diseases. With these ends in view, the General Statutes of Massachusetts require that before a body can be buried in any city or town, or be carried beyond its limits, a certificate of death must be handed to the proper authorities, signed by the physician who attended the deceased during his last illness. By a decision of the Superior Court, the word "physician" has been determined to mean any one who pretends to treat disease as a doctor; hence it is obvious that the authorities are obliged to receive any certificate that may be offered, unless they have good reason for believing that it was issued for the purpose of concealing violence or crime, in which case they can call upon the medical examiner to investigate the case. In Boston, for example, certificates signed by men, and also women, whose names are not to be found in the City Directory, some of them obliged to make their mark, because they cannot write, are received equally with those from the most eminent practitioners; and these same certificates form part of the *reliable* statistics annually published, and quoted by writers on sanitary science and others. A few specimens of these certificates will best show their value.*

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* Thus, among the causes of disease, we have, "Old age; duration, 6 hours." "Cholera Infantum; age of deceased, 73." "Canker humer." "Lang diess" (supposed to mean Lung-disease). "Canther of the bowels." "Chituses" (whatever that may be). "Lack of vetality." "Lack of Villality." "Daeth barne." "Canker & spasms." "Spells." "Scharletena." "This certifies that A beby boy died on the bornday of Febberiy, 1876," cause of death, "Born." signed, Mary her × mark Riley. A

It is thus easy to see that until the word "physician" receives some other interpretation, the present statute in no way acts as a safe-guard against the immediate burial of bodies which may have died from the effects of criminal abortion, for instance, or have in other ways been foully dealt with. The difficulties in the way of amendment are obvious. It is hard to define the word Physician legally, since the law does not recognize as such, exclusively, what we consider to be a "regular" physician, while a certain proportion of the community look upon a class of practitioners whom we call "irregular" as of the highest authority. Since accuracy in certifying to the cause of death has no concern with the treatment of disease, would it not, in view of the great importance of correctness in the returns, be feasible for a committee composed of "regular" physicians, homœopaths and eclectics, to agree upon a legal definition which should be submitted to the Legislature for approval and adoption?

The law regarding Intra-mural Interments re-

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boy is returned as "Still-Born of three minutes duration," A boy is certified to have died of "Convultions—Baptised in the Church." A girl is said to have died of "fright, ½ hour duration." A woman, 26 years of age, died of "Com sum som." A woman, 67 years old, died of "Paralysis (which was hereditary) was caused by reflex nervous action, from indigestion, induced by overloading the stomach." "Gastritis caused by severe pressure from the contracted pelvis of the mother on the Hypochondriac and abdominal regions of a very large child." "Convulsions caused by wrong circulation. The flow of blood to the brain too strong, causing congestion and spasms, which ending in strong convulsions, caused death." "Inward convulsions caused by a colic, severe pain threw her into convulsions before relief could be obtained." "Congestion of lung, caused by intense capillary congestion through the system, which finally produced pulmonary apoplexy." "Paralysis caused by reflex nervous action from indigestion, induced by overloading the stomach." "Convulsion caused by not being cared for in season." "Primary cause, Tuburcles; secondary cause, Phthisis Pulmon."

quires modification. Burials now usually take place in cemeteries situated in outlying districts near large cities. The result is that the church-yards in the crowded parts of cities are neglected; the tombs become sadly out of repair, many of them are broken open, the walls around and over them are dangerous, and the ownership of many is unknown. To keep them in repair requires a constant outlay, at public expense, the amount of which is annually increasing as the ownership of more and more tombs becomes unknown, and special police officers are required to guard them from invaders. The amount of money expended in this way in Boston during the last year was between one and two thousand dollars on those cemeteries which are in the crowded portions of the city. Of the seventeen cemeteries and burial places under the charge of the Board of Health, five (Copps Hill, Chapel, Granary, Central and South) are situated in the densely populated sections of the city. Notwithstanding the unsuitableness of the localities, and the general condition of a majority of the tombs, burials are still taking place.*

The same trouble is encountered by the local Boards of Health in all the large and growing

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	1876.	1877.	Total.
* In Central	24	29	53
Granary	4	4	8
Copps Hill	14	5	19
South	9	3	12
	51	41	92

During the same time, 43 bodies have been placed under St. Paul's Church.

cities of the Commonwealth. Recognizing the necessity for some action looking towards a remedy for the evil, the Legislature of 1877 passed an act by which the City Council of any city could, if deemed necessary, forbid farther interments in tombs within its limits. The law is, however, absolutely inoperative, since it directs a method of procedure which is impossible for the attainment of the desired relief. It provides that the Board of Health shall first notify the City Council that in its opinion such tomb or tombs are a nuisance. After three months the City Council, having first notified all the proprietors (more than half of them, in Boston, are unknown), must give a public hearing. If the nuisance be proved, the Council can pass an order forbidding farther interments; but the owners can then, within six months, go before a jury for damages. As the owners cannot be notified, no action under the present law can ever be taken except in regard to a few tombs, and these the very ones against which there are the least grounds of complaint.

The law should be so altered that, as in the case of nuisances coming within the jurisdiction of the State Board of Health, when the Board deems such action as the closure of a cemetery necessary, it should have the power to do it, after a public hearing of which due notice shall have been given in the local newspapers.*

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* Petitions have been received from some of the leading members of St. Paul's Church, in Boston, against further interments there; the foul odors from the vaults have frequently made people sick in that church. But there is no law by which the tombs can be closed.

Within the last few years "Private Lying-in Hospitals," so called, have been established in the larger cities of the Commonwealth, in which women are confined at various periods of pregnancy; and the number of still-births and of deaths from peritonitis, metritis, etc., has been large. In view of the probable character of these places, the Legislature in 1876 passed a law allowing the Mayor and Aldermen of cities and the Selectmen of towns to license such persons as should be approved by the local Boards of Health to keep Lying-in-Hospitals; such places to be visited as often as should be thought best by the Health Officers; and no other establishments were allowed to take in women to be confined. On the passage of this law, numerous applications were made for licenses in Boston, and the character of the persons applying, and the appearances of the places at which they resided, very plainly showed the nature of the business they had previously carried on. Thus far, only two licenses have been granted in this city. The statute, however, is virtually a dead letter. Only one conviction has been secured in court, although many persons are openly violating the law, for the reason that the officers of the Board of Health cannot enter a suspected house without being liable to an action of trespass, although their suspicions may rest on an advertisement in a daily newspaper.

Until recently the business of "baby farming," or taking infants to board, has been carried on to a considerable extent in Boston, and doubtless in

all the large cities of the Commonwealth. The numerous deaths annually returned from certain houses in this city attracted the attention of those interested in hygiene, and through their efforts the Legislature, in 1876, passed a law requiring all persons who took to board more than two infants under three years of age to register their names and addresses, together with the names and ages of all babies thus received, with the local Board of Health. The officers of such Board have full power to inspect, and to enforce such sanitary measures as they may deem advisable. This law has, however, the same defect as that in relation to Lying-in-Hospitals. No matter how strong the suspicion, these places cannot be visited without the examiner being liable to a prosecution for trespass. Only two persons pursuing this business are at present registered at the office of the Boston Board of Health, a fact which shows to what extent the law is enforced.

Notwithstanding the valuable reports on subjects of public hygiene which are annually issued by the State Board of Health, I will venture to make a few suggestions on certain topics which I think are not sufficiently considered, even by medical men. One of these is the defective sanitary condition of dwelling-houses, which does so much to hinder the physical development of our people. I do not now allude to the injurious consequences resulting from the entrance of foul gas from sewers, though most of us have had experience enough of the dangers of this evil; but I

would call your attention to the condition of the air in our houses as affected by the modes of warming now generally in use. On account of the economy of hot air or steam furnaces they are universally employed, often supplanting open fires. In many cases the fire-places are even bricked-up. The objections to furnaces are, first, that the warmth being applied by conduction, and not by radiation, the temperature of the air, which is a poor conductor, must be raised much higher than when direct radiation from an open fire is employed. The temperature of a furnace-heated room is rarely much below seventy degrees F., at the height of six feet from the floor; hence the air supplied for respiration must be considerably rarefied, and the proportion of its oxygen diminished. Secondly, the tendency of hot air to ascend renders the temperature of the upper strata higher than that of the lower, so that our heads are made hotter than our feet, the effect of which is seen in the drowsiness which often overpowers us in a room warmed by a furnace. Thirdly, the ventilation is defective, there being no free exit for the contaminated air. Fourthly, as was pointed out by the late Dr. George Derby, poisonous gases from the ignited anthracite coal used as fuel are apt to find their way into the rooms. The steam furnace, with radiators in the rooms, is the worst possible contrivance for warming dwellings. Unless used in combination with open fires there is absolutely no ventilation. Even the long-suffering American citizen can hardly endure the asphyxiation caused by this machine,

which has become deservedly unpopular. I regret to see it announced that in a building recently fitted for the occupation of students in one of our oldest and best academies, the rooms are heated by steam. The effects of furnace heat are chiefly seen in the sensitiveness to cold which those who are subjected to it exhibit, especially if confined much to the house, and who often complain of chilliness while the thermometer indicates a temperature of over seventy degrees. Exposure to weather only moderately cold is apt to cause inflammatory and other diseases in these persons. Children who are reared in such an atmosphere become tender, and are specially subject to catarrh, bronchitis and pneumonia from contact with the outer air. We often see evidence of this in families who have returned home after spending the summer months at the sea shore, or in the country. After a few days' exposure to the rarefied and heated air of the town house the children are made sick, and it is common for the doctor to be sent for soon after they are established in winter quarters. In a moral point of view the absence of the open fire is a great misfortune. There is no longer a family hearth. In cold weather the household must huddle round a "register" to seek comfort from the heated and rarefied air issuing from it, but there are none of the delightful associations and of the attractiveness of the blaze of an open fire, which contributes so much to sociability, cheerfulness and good feeling.

It is only of late that the important subject of

School Hygiene has received among us the attention it deserves. Although we have advanced beyond the wretched sanitary arrangements of former generations, the admirable papers of Dr. Winsor and Dr. Lincoln, in the Reports of the State Board of Health for 1874 and 1878, show that there is yet much to be done. In some respects our school-rooms are actually inferior to those of fifty years ago, when open fires were common, owing to the cheapness of fire-wood; and the "Franklin" with its powerful radiation and its wide chimney served not only for warming but also for ventilation,—now poorly compensated by the furnace pouring forth heated and rarefied air, not unfrequently mixed with noxious gases, for our children to breathe. Owing to its low conducting power this air must be raised to the temperature of a hot summer's day, and consequently is much attenuated, besides containing an inadequate proportion of oxygen. If the lowest stratum be warm enough to make the feet comfortable, the higher level must be still hotter from the rapidity with which heated air ascends. Hence the flushing of the face, headache and drowsiness often complained of by the pupils. This effect is especially seen in our private schools for girls, most of which are in dwellings constructed without any design for such use, where from twenty to forty children occupy, for several hours, one or two rooms, originally intended for a small number of persons, sometimes without any efficient means of ventilation. An open fire, if possible of wood,

or in lieu of that of cannel coal, should always be kept burning in such rooms during school hours. Is it wonderful that our school-girls complain of giddiness, headache, palpitation and other symptoms of chlorosis under these conditions? I am glad to say that there are some exceptions to this state of things in Boston, at least, the rooms being ventilated by open fires.

I am of the opinion that the hours of attendance, both in private and public schools, are larger than can be safely endured by most children. In cities and large towns it is becoming common to have a single session, lasting from 9 o'clock till 2. Dr. Reynolds has pointed out the evils of this system. Both mind and body are wearied by the confinement and close application for so many hours, and the short intermission is altogether insufficient for relaxation. Children cannot safely go so long a time without proper food, the lunches which they take with them being often unwholesome, and eaten with haste. A practical example of the pernicious effects of luncheon as a substitute for a regular meal was furnished at the Massachusetts Institute for Technology. Complaint having been made that the health of the students was suffering, as was supposed, from the close application exacted of them, the subject was investigated by the President of the Institute, Mr. Runkle. Many of the students live in the vicinity of Boston, coming to town in the morning by rail, and returning in the evening. They brought lunch with them, which they were accustomed to

eat at odd moments. Mr. Runkle suspected that the physical and mental exhaustion of which they complained was owing to the want of a substantial meal taken at a regular hour. The plan was adopted of providing for their use a table at which they could procure a regular meal together. This was completely successful, and no complaints have been made since then of the injurious effects of study upon the health of the students

The old plan of morning and afternoon school, with time enough between them for the children to go home and dine, as well as play, was a salutary arrangement. It is a matter of regret that the distance which children have to travel, now-a-days, in order to reach school, in many cases, prevents a return to this system ; but its advantages should, as far as possible, be imitated by increasing the length of the intermission. The long summer vacation which the pupils of most schools in cities and large towns enjoy, is an evil of considerable magnitude. Nearly one-fourth of the year is thus disposed of, and but few other holidays can be afforded. I do not complain so much of the *amount* of vacation as that it should be unequally distributed. More frequent recesses of from one to two weeks each, made at the expense of the summer vacation, would prevent the injurious effects of too incessant labor; but the modern customs of society, exacting an exodus from home early in summer, would seem to render this impossible.

Among the special effects of the excessive mental stimulation to which children are subjected in

our schools, without due regard to the importance of a healthy physical development and of frequent relaxation from work, may be mentioned what is sometimes called "nervous asthenia," a condition most frequently seen in adolescents and young adults, especially females, which threatens to undermine seriously the health of future generations. It is hardly necessary to allude to the formidable danger to the eye-sight incurred by our school children. The subject has been brought before the profession and the public with much earnestness by Professor Williams, Dr. Derby, Dr. Jeffries and others, who have called attention to the alarming increase of nearsightedness among school children and students in academies and colleges.* As the disease is progressive, and in some cases leads to structural disorder and total loss of sight, it becomes important that physicians should warn teachers and parents of the danger in season to prevent the evil which cannot be cured when it has once become established. Studies out of school should be brief, if allowed at all, and no evening work should be permitted which causes fatigue to the eyes. The school desks, and the direction of the light, should be arranged with special reference to preventing congestion of the eyes and fatigue of the muscles of accommodation.

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* "Nearsightedness and School houses," by B. Joy Jeffries, M.D., Boston Medical and Surgical Journal, May 14, 1874. "Serious Pathological Changes in Myopic Eyes," by H. W. Williams, M.D., ibid., Oct. 29, 1874. "The Origin and Causes of Nearsightedness," etc., by the same, ibid., Dec. 21, 1876. "A Report on the percentage of Near Sight found to exist in the Class of 1880 at Harvard College, with some Account of similar Investigations," by Hasket Derby, M.D., ibid., March 22, 1877.

I may venture to hint that even in this enlightened day some improvement is still needed in our methods of dealing with disease. We are too much given to routine practice ; too prone to treat the disease rather than the patient ; too forgetful of the great doctrine of the self-limitation of disease, promulgated by the venerable Dr. Bigelow. New remedies are from time to time discovered, some of them of undoubted utility, such as salicylic acid, carbolic acid, chloral, jaborandi and others ; but the number of these is not large, and in proportion as our acquaintance with the natural course of a disease increases, our belief in the specific effects of drugs should diminish. Yet we are still apt to regard the sudden amendment in pneumonia, which in uncomplicated cases is the natural course of that malady, as the result of some specific remedy or mode of treatment. To test the value of a drug requires much patience, close observation, and a mind able to discriminate between effect and mere sequence. Inaccuracy of observation and hasty generalization have done much to retard the progress of therapeutics. There is an instinctive desire to try the effect of something new, and we are apt to be misled by the enthusiasm of experimenters. Samples of drugs which interested speculators hope to push into market are distributed broadcast to physicians. Instead of a dispenser of medicines, the pharmacist, as he is now styled, has become a dealer in fancy preparations, in many of which the only article of value is in too small proportion to be efficient.

Some scores of preparations of a drug are offered to us, while all its virtues can be obtained from two or three. What advantage does an "elixir of wine, beef and iron" possess over any simple form of iron, with alcoholic stimulants and beef tea at discretion? A physician of large experience and sound judgment generally employs but few remedies, and those in simple combinations. While he is ready to adopt new ones which are recommended by good authority, he does so with due caution and with a conscientious regard to the welfare of his patient.

Medical periodical literature is an important topic of consideration in any general survey of the profession. So rapid is the growth of medical science that the old-fashioned quarterlies are unable to supply us fast enough with the discoveries and improvements which are constantly made, and have given place to monthlies, bi-monthlies and weeklies. A noted feature in most journals is a department devoted to the most "recent advances" in the different branches of medicine. No physician can do justice to his patients who is not a reader of medical journals; he must otherwise soon fall short of the average knowledge of practitioners. In order that a journal should succeed, it should receive the hearty support of the profession. Few are aware of the great expense and labor necessary to maintain a good medical periodical, or the small amount of profit derived from it. For the editors and collaborators it is really so much out of pocket in return

for the valuable amount of time they devote to it. This Society is under great obligations to an association of Fellows who undertook the risk of purchasing the Boston Medical and Surgical Journal, in order to raise it to a higher grade of usefulness by supplying the profession with a record of scientific progress, and with original and practical articles on medical subjects, and it is not an unreasonable demand that every Fellow of the Society should, by subscribing to it, contribute to its support.

Before closing these desultory remarks, I desire to call the attention of the profession to the subject of provision for those of our brethren who by reason of sickness, age, or other inability, are deprived of the means of support, as well as for the widows and children of medical men who are more or less destitute. It is notorious that physicians seldom make more than a living from their calling. A few specialists have large incomes, but this is not the case with the rank and file. As a rule, we cannot begin to lay up anything before we have passed the meridian of life, when the increasing amount of labor, with diminished strength, renders the tenure of the remaining portion precarious. There is no profession in which so much gratuitous work is done as in ours. Besides the services rendered in dispensary and hospital practice, which are, to some extent, recompensed by the opportunities they afford for study and experience, a large amount of professional advice and labor is freely bestowed upon

patients of a better class who can pay little or nothing for it. Hence medical men and their families, who through misfortune are deprived of the means of support, should especially become the objects of benevolence. The Massachusetts Medical Benevolent Society was established more than twenty years ago for the purpose of aiding those of our profession and their families who are in need of pecuniary assistance. I regret to say that it has not, as yet, attracted as much notice from the benevolent as it deserves. Its funds are barely sufficient to pay to a few beneficiaries the sum of sixty dollars each, yearly, with an occasional extra amount in urgent cases. Small as this relief is, it is thankfully accepted by those who are able to obtain it. Any addition to the permanent fund of the Society will extend its usefulness by relieving a most worthy class of sufferers.

Before separating for another year, let us remember with affection and respect those of our brethren who, since we last met, have passed from the scenes of their earthly labors,—some, widely known and honored, others remembered by few beyond the circle of friends and neighbors to whom they are endeared by the ready help they afforded in times of suffering, and their sympathy in the hours of affliction. When to each of us shall come the inevitable hour, may we be cheered and sustained by the remembrance of benefits it has been given us to confer on suffering humanity.

THE IDENTIFICATION

OF THE

HUMAN SKELETON.

A MEDICO-LEGAL STUDY.

TO WHICH WAS AWARDED THE PRIZE

OF THE

MASSACHUSETTS MEDICAL SOCIETY

For 1878.

By THOMAS DWIGHT, M.D.
OF BOSTON.

You are bones, and what of that?
Every face, however full,
Padded round with flesh and fat,
Is but modelled on a skull.
The Vision of Sin.

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IDENTIFICATION OF THE HUMAN SKELETON.

INTRODUCTION.

It occasionally happens that the result of a criminal trial, or of a law suit, may depend on the identification of a skeleton or of parts of it. Most frequently the body can be recognized, and very commonly articles of dress or of ornament found with it put its individuality beyond a reasonable doubt. In the latter class of cases, however, it is sometimes thought desirable to prove that the bones themselves could or must have belonged to a person of the height, sex and age of the deceased.

In rare cases the identification must rest on the bones alone, and then the duties of an expert are of great importance. He will find certain statements of doubtful correctness concerning the proportions of the different parts, but he will otherwise be left entirely to his own discretion in estimating the height, and he will be confused in determining the sex and age by the diversity of the assertions of even high authorities.

The purpose of this paper is to lessen these difficulties by giving practical directions how to work, by testing the truth of the statements of authors, and when these disagree by declaring which one, in the writer's opinion, is most trustworthy, and finally, by calling attention to a number of anatomical facts, some of which are believed to have been overlooked, and others of which are not easily found. Every case has certain features of its own which it is impossible to foresee, and beside the usual questions of

height, sex, age, etc., others may unexpectedly present themselves. It is hoped that under such circumstances some of the observations recorded in these pages may be of use.

These researches apply solely to the skeleton, and to that of the adult Caucasian,—that is, of individuals who have at least very nearly completed their growth.

The writer did not have at his command enough material to permit him to pass any judgment on the statements of authors concerning the bones of children, or of any of the lower races.

Sometimes the metric system has been used, sometimes the English scale. There is no question that the former is superior, but the latter was chosen occasionally for greater convenience in comparing figures with those of others, and some of the measurements had been made before the writer was convinced of the greater practical advantages of the metric system. Most of the results, however, are given in both systems.

Examinations of this kind have been undertaken, I believe, exclusively to decide whether certain remains were those of some particular person. Now if this person had any distinguishing marks, their presence or absence would far outweigh any purely anatomical deductions. Thus false teeth, or the absence or disease or injury of certain teeth, should be looked for, but this alone would not be conclusive unless the peculiarity should be of a striking character, and the expert should not neglect to estimate the height, sex and age. Deformities, such as club-feet, fissure of palate, etc., would, of course, be of great value as aids to identification. So would fractures, but it is as well to admit that not impossibly a fracture received in youth and successfully treated, might present very slight indications in old age. I should hesitate to assert that it would neccessarily be recognizable. A section of the bone should be made in

doubtful cases in such a way as to traverse the line of the suspected fracture.

The questions to be determined usually are :—

1st. Are these bones human?

2d. Do they belong to one or more individuals?

3d. What is the sex?

4th. What is the age?

5th. How long is it since death?

6th. What is the height?

7th. If certain parts are wanting, can we estimate their size? If so, how?

When the expert receives bones for examination he should at once make a list of them, together with notes of any striking peculiarities they may present, and if there is any question of fracture, or if the bones are inclined to crumble, he must lose no time in writing a description that shall be so accurate that he can never be in doubt whether any change of importance occurred before or after they were in his keeping.

Let the expert never forget, both in giving his evidence and in making his investigations, that the result does not concern him. He should not permit himself to be employed either to prove that the remains are those of a certain person, or that they are not. He should be as impartial as the judge.

Let him also remember that absolute certainty can very rarely be reached in the solution of questions of this nature; exceptions and various causes of error are so numerous that strong probability, amounting sometimes to moral certainty, is the most he can generally hope for.

To conclude, it is for the jury, not the expert, to decide on the identity of the skeleton; it is for the expert to show whether the identity is possible or probable. The opinion he will give will depend not only on his professional acquirements, but on his honesty and common sense.

CHAPTER I.

ARE THE BONES HUMAN?

An entire human skeleton or large parts of one can by no possibility be mistaken for the remains of any lower animal, nor can the latter be taken for the former. If, however, only fragments are found, there may be great difficulty, or even an impossibility, in determining whether at least a part of them may not belong to some animal. Rules cannot be laid down to guide such an investigation, which must be confided to the tact of an expert, who, to a thorough knowledge of human anatomy, joins some acquaintance with the bones of animals.

CHAPTER II.

DO THE BONES BELONG TO ONE INDIVIDUAL?

It does not necessarily follow that bones found together originally formed a single skeleton, and the expert should remember that it is not impossible that bones may have been put together for the purpose of deception.

The bones of every skeleton have a certain individuality of type: they appear old or young, strong or weak, rough or smooth, and the shape and size of the more marked processes or depressions are very similar in the two sides of the body. Indications of this nature are not sure guides, but they are valuable to an experienced and honest expert. The bones should then be put together to ascertain if they fit, and this method is satisfactory enough for some points

and doubtful for others. The vertebræ, if they are all present, can easily be fitted together, the forearm can be put on the arm, the leg on the thigh, and the innominate bones on the sacrum. But there might be serious doubt about the sternum, scapula and clavicle, whether they belonged to the same set as the thorax and the arm, or whether all three were of different sets. And again in the lower extremity there might be some doubt whether the femur and pelvis belonged together. In such cases we must be guided by the general similarity of structure (of finish would perhaps be the more appropriate expression), and we should have recourse to the rules of the proportions of the body by which we may satisfy ourselves that it is at least possible that the bones belonged together.

The bones of the opposite sides, though very similar in most respects, differ more in length than has generally been supposed. Dr. J. S. Wight[1] has investigated this subject, and has published two tables of measurements of the lower limbs of the living subject which show unexpected discrepancies. From a total of 102 cases he finds the legs equal in 23, and unequal in 79. The average difference was just over one-quarter of an inch, and in 26 cases the difference was one half an inch or more. The left leg was usually the longer. The number of Dr. Wight's observations forbids us to question the fact that in a large proportion of persons there is a difference in length between the legs, but it is so difficult to measure dry bones, under the most favorable circumstances, perfectly and accurately, that measurements of the living body must be taken with distrust. Another, and more serious source of error, is that the upper point was in the pelvis, and thus both from the difficulty of placing the body perfectly even, and the possibility or even probability of a difference between the sides of the pelvis, the results

[1] Proceedings of the Medical Society of the County of Kings, N.Y., Feb. 1878.

are of little value to us, though useful for the question of shortening after fractures, for which the author undertook his studies.

Before seeing Dr. Wight's tables I had been inclined to think that the clavicles differed more in length than is generally supposed, and to decide this point had tabulated 19 of the following 22 cases before this paper induced me to measure carefully the bones of the limbs.

TABLE I.

LENGTH OF CLAVICLES IN CENTIMETRES.

No.	R.	L.	No.	R.	L.
1	14.	15.	12	14.6	14.6
2	14.	14.3	13	13.6	14.
3	13.6	14.3	14	14.	14.3
4	14 3	14.3	15	16.1	16 7
5	14.1	13.9	16	14.1	14 1
6	13.6	14.	17	14 2	14 5
7	14.	14.4	18	14 7	14.7
8	13.8	14.4	19	15.2	15.
9	14.7	15.1	20	15.	15.7
10	15 3	15.4	21	15.	15.
11	12.9	13.2	22	14.	14.

[NOTE.—The clavicles were measured on a straight line between the two most distant points.]

The average length of the right clavicles is .142 m. (5.58 in.), that of the left .145 m. (5.7 in.), which is certainly a trifling difference, but we find that of these 22 there is one in which the difference equals 1 c.m. (.39 in.), and four others in which it exceeds 5 m.m. (.19 in.). It is curious to note that of these 22, six pairs are of equal length, and in only two cases is the right clavicle the longer.

To verify Dr. Wight's figures I measured the humerus, radius, femur and tibia of twelve skeletons with great care, and was surprised at the differences revealed, which are shown in the following table :

TABLE II.

LENGTH OF CORRESPONDING BONES OF LIMBS.

No.	Humerus.		Radius.		Femur.		Tibia.	
	R.	L.	R.	L.	R.	L.	R.	L.
1	11	11¼	8⅞	8⅞	15¼	15¼	13⅜	13⅛
2	11½	11	8¾	8¾	15¾	15¾	13½	13½
3	12⅛	12	9⅜	9⅜	16¾	16⅞	14¼	14¼
4	12⅜	12½	9¾	9⅝	17¼	17¼	14¾	14⅝
5	13⅛	13⅛	10	10	17½	17⅞	15¼	15⅜
6	13¼	13¼	10⅜	10⅜	17¾	17¾	16¼	16⅛
7	12½	12¼	9¼	9¼	17⅛	17⅛	14½	14¼
8	12⅞	12⅝	9⅞	9⅞	16⅞	16⅞	14½	14⅞
9	12⅜	12⅜	9⅜	9¼	16⅞	16⅝	13¾	14
10	12½	12½	10¼	10⅛	16⅛	16¼	14⅛	14⅜
11	13–	13	9⅜	9⅜			14⅝	14¾
12	13	12¾	9¾	9⅝	16⅞	17	14⅜	13⅞

[NOTE.—These measurements were made to correspond with Dr. Wight's in inches and eighths of inches. The humerus was measured from the head to the base of the inner border of the pulley-like surface for the ulna, except in the 8th and 12th cases, in which it was found advisable to measure it to the lower border of the capitellum. The radius was measured pronated from the top of the head to the point of the styloid process. The femur was measured from the tip of the great trochanter to the lower border of the outer condyle; the tibia from the top of the inner aspect to the lowest point of the malleolus.]

It appears that the right humerus was longer four times, the left three times, and that they were equal five times,—the greatest difference being half an inch. The right radius was longer four times and the two were equal eight times. The difference was trifling; never exceeding one eighth of an inch. Of the eleven femora the right was longer in two cases, the left in four, and they were equal in five. In one case the difference was three fourths of an inch. Of the tibiæ the right was longer four times, the left six times, and they were equal in two cases. It is worth noticing that sometimes the longer femur and tibia are on the same side, and sometimes on the opposite one.

We will now consider successively the chief parts of the skeleton and endeavor to find rules for determining whether the pieces composing them belong together, which will aid us in supplying the places of such as may be absent, noticing at the same time some of the less obvious points of anatomical interest that may be of value to the expert.

The first point is to decide whether the vertebræ belong to a single set; and in most cases any one with any claim to the title of expert can easily determine this by putting them in order and noting that each vertebra corresponds to those on each side of it. The changes are for the most part so gradual that the presence of any extraneous piece could hardly fail to be detected. At some points the changes of certain characteristics are very sudden, as for instance of the transverse processes at both ends of the dorsal region and of the direction of the articular facets at the junction of the dorsal and lumbar regions; but in this latter respect, and in some others, anomalies are met with of which the expert must not be ignorant. If several of the vertebræ are wanting, especially several adjacent ones, the difficulties will be greatly increased. There are, as I have said, certain deductions to be made from the general appearance of the bones that may indicate that they belonged to one person, which taken with other circumstances may be of much value, but, again, such signs may be wanting, or indefinite. For this purpose, tables of weight and measurements are of great advantage.

Dr. Carl Bardeleben[1] published the weights of the vertebræ (exclusive of the atlas and axis) of seven spines. The first four of these he states were from full-grown individuals, but he does not mention the sex. The fifth, of which the fifth lumbar vertebra was wanting, was from a woman, and the sixth and seventh from young persons. He gives the average of the first four, and a curve showing it. To increase the numbers observed I have weighed two spines, Nos. 6 and 7, and seeing no reason to reject Bardeleben's number 5, have obtained an average and curve of these seven, viz. :—two of my own and five of Bardeleben's. I reproduce his curve also.

[1] Beiträge zur Anatomie der Wirbelsäule, Jena, 1874.

CHART I.

Curve of Weights of Vertebræ.

.....Bardeleben's Curve of four sets.

————————Writer's " " seven sets (including the previous four).

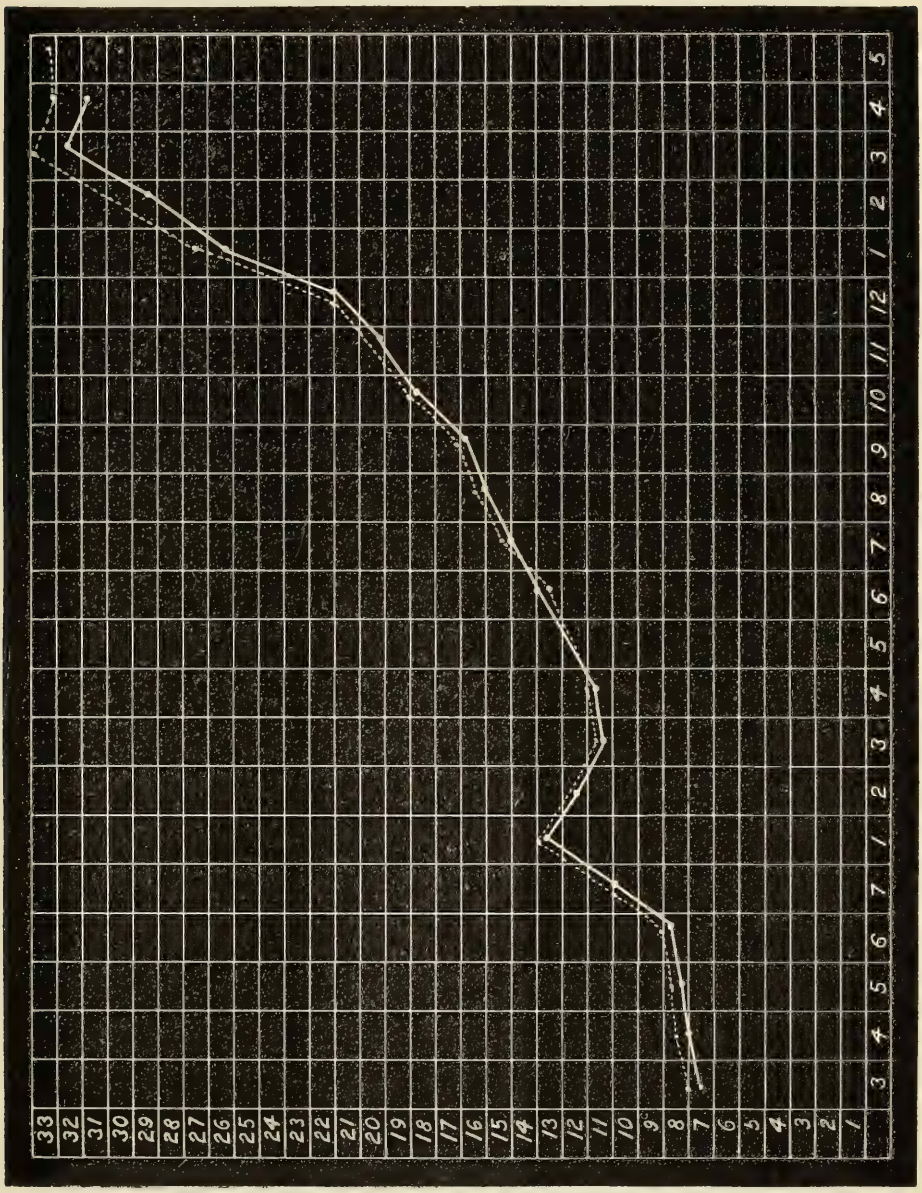


TABLE III.

WEIGHTS OF VERTEBRÆ IN GRAMMES.

No.		Bardeleben's.										The Writer's.					
		1.	D.*	2.	D.*	3.	D.*	4.	D.*	5.	D.*	6.	D.*	7.	D.*	Mean.	D.*
Cervical.	3	6.8		7.9		6.4		6.9		5.2		8.		6.6		6.83	
	4	7.1	.3	8.2	.3	6.9	.5	7.3	.4	5.7	.5	7.4	-.6	6.6	.0	7.03	.2
	5	7.3	.2	8.4	.2	6.7	-.2	7.4	.1	6.2	.5	8.	.6	6.9	.3	7.27	.24
	6	7.7	.4	9.1	.7	7.2	.5	8.	.6	6.6	.4	8.7	.7	8.3	1.4	7.94	.67
	7	11.9	4.2	9.5	.4	9.2	2.	9.1	1.1	8.5	1.9	10.7	2.	9.7	1.4	9.8	1.86
Dorsal.	1	15.2	3.3	11.8	2.3	12.5	3.3	11.2	2.1	10.	1.5	14.2	3.5	12.9	3.2	12.54	2.74
	2	14.3	-.9	11.9	.1	10.95	-1.55	9.9	-1.3	8.2	-1.8	13.3	-.9	12.5	-.4	11.58	-.96
	3	12.5	-1.8	10.2	-1.7	10.3	-.65	9.7	-.2	7.7	-.5	12.2	-1.1	11.2	-1.3	10.54	-1.04
	4	12.2	-.3	10.1	-.1	10.9	.6	10.6	.9	7.9	.2	12.9	.7	11.3	.1	10.84	.30
	5	13.1	.9	11.1	1.	11.4	.5	11.5	.9	8.1	.2	14.1	1.2	12.2	.9	11.64	.8
	6	14.8	1.7	12.	.9	12.6	1.2	11.8	.3	9.2	1.1	16.	1.9	14.6	2.4	13.	1.36
	7	16.6	1.8	13.1	1.1	13.75	1.15	13.2	1.4	9.8	.6	16.6	.6	15.6	1.	14.09	1.09
	8	18.8	2.2	14.8	1.7	14.2	.45	13.8	.6	10.1	.3	16.9	.3	16.8	1.2	15.05	.96
	9	19.2	.4	15.9	1.1	15.6	1.4	14.5	.7	11.1	1.	18.5	1.6	16.7	-.1	15.93	.88
	10	22.7	3.5	17.1	1.2	17.5	1.9	15.7	1.2	13.	1.9	20.4	1.9	19.2	2.5	17.94	2.01
	11	24.3	1.6	18.6	1.5	18.4	.9	17.7	2.	12.2	-.8	21.6	1.2	21.7	2.5	19.21	1.27
	12	26.6	2.3	20.2	1.6	19.7	1.3	19.2	1.5	15.3	3.1	24.6	3.	23.7	2.	21.33	2.12
Lumbar.	1	29.9	3.3	26.	5.8	27.5	7.8	22.3	3.1	17.6	2.3	26.4	1.8	27.1	3.4	25.25	3.92
	2	35.3	5.4	31.2	5.2	29.3	1.8	24.7	2.4	19.	1.4	32.	5.6	30.3	3.2	28.83	3.58
	3	36.7	1.4	34.1	2.9	32.7	3.4	28.5	3.8	21.6	2.6	34.7	2.7	33.2	2.9	31.64	2.81
	4	34.4	-2.3	33.1	-1.	32.3	-.4	28.9	.4	22.	.4	32.1	-2.6	32.4	-.8	30.74	-.9
	5	34.2	-.2	35.8	2.7	31.9	-.4	27.5	-1.4			35.9	3.8	32.4	.0		

* Difference.

TABLE III. A.

WEIGHTS OF VERTEBRÆ IN GRAINS.

No.		Bardeleben's.										The Writer's.					
		1.	D.	2.	D.	3.	D.	4.	D.	5.	D.	6.	D.	7.	D.	Mean.	D.
Cervical.	3	105		122		99		106		80		124		102		105	
	4	110	5	127	5	106	7	113	7	88	8	114	-10	102	0	109	4
	5	113	3	130	3	103	-3	114	1	96	8	124	10	107	5	112	3
	6	119	6	140	10	111	8	123	9	102	6	134	10	128	21	122	10
	7	184	65	147	7	142	31	140	17	131	29	166	32	150	22	151	29
Dorsal.	1	235	51	182	35	193	51	173	33	154	23	219	53	199	49	194	43
	2	221	-14	184	2	169	-24	153	-20	126	-28	205	-14	193	-6	179	-15
	3	193	-28	157	-27	159	-10	150	-3	119	-7	188	-17	173	-20	163	-16
	4	188	-5	156	-1	168	9	164	14	122	3	199	11	175	2	167	4
	5	201	13	171	15	176	8	177	13	125	3	218	19	188	13	179	12
	6	228	27	185	14	194	18	180	3	142	17	247	29	225	37	200	21
	7	256	28	202	17	212	18	204	24	151	9	256	9	238	13	217	17
	8	292	36	228	26	219	7	213	9	156	5	261	5	259	21	233	16
	9	298	6	245	17	241	22	224	11	171	15	286	15	258	-1	246	13
	10	350	52	264	19	270	29	239	15	201	30	315	29	296	38	276	30
	11	375	25	287	23	284	14	273	34	188	-13	334	19	335	39	297	21
	12	411	36	312	25	304	20	298	25	236	48	379	45	366	31	329	32
Lumbar.	1	461	50	401	89	424	124	344	46	272	36	407	28	418	52	390	61
	2	543	82	482	81	452	28	381	37	293	21	493	86	468	50	445	55
	3	566	23	526	44	504	52	440	59	333	40	535	42	512	44	488	43
	4	531	-35	511	-15	499	-5	446	6	340	7	505	-30	499	-13	476	-12
	5	528	-3	528	17	492	-7	424	-22			553	48	500	1		

I did not, however, feel justified in estimating the weight of the missing vertebra of Bardeleben's fifth spine, and consequently cannot give the mean of the fifth lumbar. So small a number of observations can give, of course, no fair average of the weight of the vertebræ, but it will be seen that the increase and the decrease corresponds pretty closely in the different tables, and consequently the columns showing the difference between neighboring vertebræ are not without value.

The most striking features of these curves (which very nearly coincide with one other) are the slight differences in the cervical region above the sixth, the sudden rise at the seventh and first dorsal, the subsequent fall and then the gradual rise through the dorsal region, and the greatly accelerated increase shown by the first three lumbar and the falling off of the fourth.

Study of the tables will show that none of the spines present important individual variations except at the fifth lumbar, the weight of which seems quite uncertain. This table will be of use in ascertaining whether certain vertebræ, the neighbors of which are wanting, may belong to a given spine. No one with common sense would assert, if the weight corresponded precisely with the proper one, that this was surely the case, in the absence of other data, but he might decide whether or not it was possible that the vertebra belonged to the spine in question.

In using this table to reckon the proper weight of a vertebra, no one, of course, would take the mean difference and add it to, or subtract it from, the weight of the next piece. This would be a serious error. If, for instance, one wished to know what the weight of a twelfth dorsal vertebra shall be to correspond to a certain eleventh dorsal, he should proceed as follows :—Let the difference between the weight of the eleventh, which is known, and of the twelfth, which is sought, be x. Then make the equation :—

As the mean difference between the eleventh and twelfth is to the mean eleventh, so is x to the eleventh in question, and the value of x being found, add it to the weight of the eleventh.

Similar indications are to be obtained from measurements of the height of the vertebræ and of the spread of the transverse processes. I have taken the former measurement on the vertebræ of fourteen spines. Two of these consisted of twenty-five free vertebræ, in one the extra one being in the lumbar, and in the other in the dorsal region. The measurements of these two have been recorded with the others, but excluded from calculations of the mean size. The results are to be found in Table IV. and in Chart II.

As the curve shows, there is, with a trifling exception in the lower part of the cervical region, a tolerably regular increase from the third cervical to the fifth lumbar. From the second to the eighth dorsal the changes are very minute.

In Table V. are recorded the total lengths of the bones of the different regions, and finally their means, as well as the total length of the bones of the spine and the mean length of twelve spines. It shows, also, the proportions of the bones of the different regions to the total length of the osseous portion of the vertebral column above the sacrum. The whole length of the axis and its odontoid process is taken together, and enables us to get the length of the cervical portion, for the odontoid reaches to the top of the atlas.

CHART II.

Curve of Height of Bodies of Vertebræ of Twelve Spines.

(The second includes the Odontoid Process.)

Actual Scale.

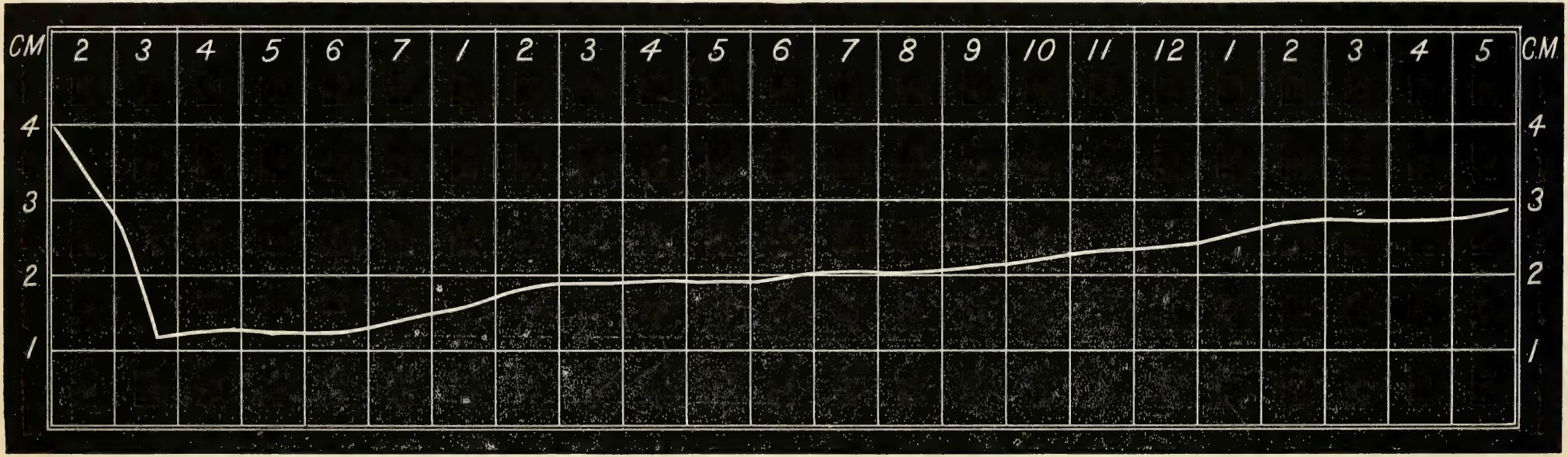


TABLE IV.

HEIGHT OF BODIES OF VERTEBRÆ IN CENTIMETRES.

		1.	D.	2.	D.	3.*	D.	4.*	D.	5.	D.	6	D.	7.	D.	8.	D.	9.	D.	10	D.	11*	D.	12*	D.	13.	D.	14*	D.	Mean of 1-12. inclu.	D.	Mean in inch's	D.	No.
Cervical.	2	4.1		4.1		3.1		3.		3.3		3.6		3.5		3.9		4.		3.3		3.5		3.2		3.8		3.6		3.5		1.4		2
	3	1.2	-2.9	1.3	-2.8	1.1	-2.	1.2	-1.8	1.1	-2.2	1.4	-2.2	1.1	-2.4	1.	-2.9	1.4	-2.6	1.3	-2.	1.3	-2.2	1.1	-2.1	1.4	-2.4	1.2	-2.4	1.2	-2.3	.5	-.9	3
	4	1.1	-.1	1.3	.0	1.1	.0	1.2	0	1.	-.1	1.3	-.1	1.2	.1	1.	0	1.2	-.2	1.2	-.1	1.3	0	1.1	0	1.5	.1	1.2	0	1.2	0	.5	0	4
	5	.9	-.2	1.2	-.1	1.1	.0	1.	-.2	.7	-.3	1.2	-.1	1.1	-.1	1.1	.1	1.2	0	1.2	0	1.2	-.1	1.	-.1	1.5	0	1.2	0	1.1	-.1	.4	-.1	5
	6	1.2	.3	1.1	-.1	1.1	.0	1.1	.1	.7	0	1.2	0	1.2	.1	1.2	.1	1.2	0	1.	-.2	1.3	.1	1.	0	1.1	-.4	1.2	0	1.1	0	.4	0	6
	7	1.5	.3	1.3	.2	1.2	.1	1.3	.2	1.1	.4	1.4	.2	1.3	.1	1.4	.2	1.3	.1	1.3	.3	1.4	.1	1.1	.1	1.1	0	1.3	.1	1.3	.2	.5	.1	7
Dorsal.	1	1.7	.2	1.6	.3	1.2	0	1.4	.1	1.3	.2	1.6	.2	1.6	.3	1.5	.1	1.5	.2	1.4	.1	1.6	.2	1.2	.1	1.5	.4	1.3	0	1.5	.2	.6	.1	1
	2	1.9	.2	1.7	.1	1.5	.3	1.4	0	1.5	.3	1.7	.1	1.9	.3	1.7	.2	1.8	.3	1.8	.4	1.7	.1	1.4	.2	1.8	.3	1.4	.1	1.7	.2	.7	.1	2
	3	1.9	0	1.6	-.1	1.6	.1	1.6	.2	1.6	.1	1.9	.2	1.9	0	1.8	.1	1.8	0	1.8	0	1.7	.0	1.5	.1	1.9	.1	1.6	.2	1.7	0	.7	0	3
	4	1.9	0	1.7	.1	1.6	0	1.5	- 1	1.6	0	1.9	0	1.8	-.1	1.9	.1	1.9	.1	1.8	0	1.6	-.1	1.4	-.1	2.	.1	1.5	-.1	1.7	0	.7	0	4
	5	2.	.1	1.9	.2	1.5	-.1	1.6	.1	1.6	0	2.	.1	1.9	.1	1.9	0	1.9	0	1.7	-.1	1.7	.1	1.5	.1	1.9	-.1	1.7	.2	1.7	0	.7	0	5
	6	1.9	-.1	2.	.1	1.6	.1	1.5	-.1	1.8	.2	1.9	-.1	2.1	.2	1.9	0	1.8	-.1	1.9	.2	1.7	0	1.6	.1	2.	.1	1.9	.2	1.8	.3	.7	0	6
	7	1.7	-.2	2·	0	1.6	0	1.6	.1	1.8	0	1.9	0	2.2	.1	1.8	-.1	1.8	0	2.	.1	1.6	-.1	1.6	0	1.9	-.1	1.9	0	1.8	0	.7	0	7
	8	1.7	0	2.1	.1	1.6	0	1.8	.2	1.8	0	1.9	0	2.1	-.1	1.9	.1	1.8	0	2.	0	1.8	.2	1.6	0	2.	.1	1.9	0	1.8	0	.7	0	8
	9	1.9	.2	2.2	.1	1.8	.2	1.9	.1	2.1	.3	2.1	.2	2.2	.1	1.9	0	1.5	-.3	2.1	.1	1.9	.1	1.8	.2	2.1	.1	1.9	0	1.9	.1	.7	0	9
	10	2.3	.4	2.3	.1	1.8	0	2.	.1	2.2	.1	2.4	.3	2.2	0	2.2	.3	1.9	.4	2.1	0	1.9	0	2.	.2	2.1	0	2.1	.2	2.1	.2	.8	.1	10
	11	2.	-.3	2.2	-.1	1.8	0	2.1	.1	2.2	0	2.3	-.1	2.1	-.1	2.3	.1	1.9	0	2.2	.1	1.8	-.1	2.	0	2.1	0	2.2	.1	2.1	0	.8	0	11
	12	2.4	.4	2.5	.3	2.1	.3	2.2	.1	2.4	.2	2.6	.3	2.4	.3	2.2	-.1	2.1	.2	2.2	0	2.	.2	2.	0	2.2	.1	2.2	0	2.2	.1	.85	.05	12
Lumbar.	1	2.7	.3	2.8	.3	2.2	.1	2.5	.3	2.5	.1	2.7	.1	2.6	.2	2.2	0	2.3	.2	2.2	0	2.1	.1	2.2	.2	2.4	.2	2.2	0	2.4	.2	.9	.05	1
	2	2.8	.1	2.9	.1	2.1	-.1	2.6	.1	2.5	0	2.6	-.1	2.7	.1	2.3	.1	2.4	.1	2.5	.3	2.5	.4	2.3	.1	2.5	.1	2.2	0	2.5	.1	1.	.1	2
	3	2.9	.1	2.7	-.2	2.	-.1	2.6	0	2.4	-.1	2.6	0	2.8	.1	2.2	-.1	2.6	.2	2.4	-.1	2.8	.3	2.4	.1	2.5	0	2.3	.1	2.5	0	1.	0	3
	4	2.9	0	2.8	.1	2.	0	2.4	-.2	2.6	.2	2.6	0	2.8	0	2.2	0	2.5	-.1	2.4	0	2.7	-.1	2.3	-.1	2.6	.1	2.4	.1	2.5	0	1.	0	4
	5	2.9	0	2.9	.1	2.3	.3	2.6	2	2.7	.1	2.7	.1	2.9	.1	2.4	.2	2.5	0	2.4	0	2.9	.2	2.3	0	2.6	0	2.5	.1	2.6	.1	1.	0	5
	6																									3.	.4	2.3	-.2					6

* The axis could not be accurately measured and is estimated.

TABLE V.

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	Mean.	Mean in inches	
Cervical.	10.	10.3	8.7	8.8	7.9	10.1	9.4	9.6	10.3	9.3	10.	8.5	10.4	9.7	9.4	3.6	Length of bones of regions in centimetres.
Dorsal.	23.3	23.8	19.7	20.6	21.9	24.2	24.4	23.	21.7	23.	21.	19.6	23.5	23.8	22.1	8.7	
Lumbar.	14.2	14.1	10.6	12.7	12.7	13.2	13.8	11.3	12.3	11.9	13.	11.5	15.6	11.7	12.6	4.95	
Total.	47.5	48.2	39.	42.1	42.5	47.5	47.6	43.9	44.3	44.2	44.	39.6	49.5	45.2	44.1	17.15	

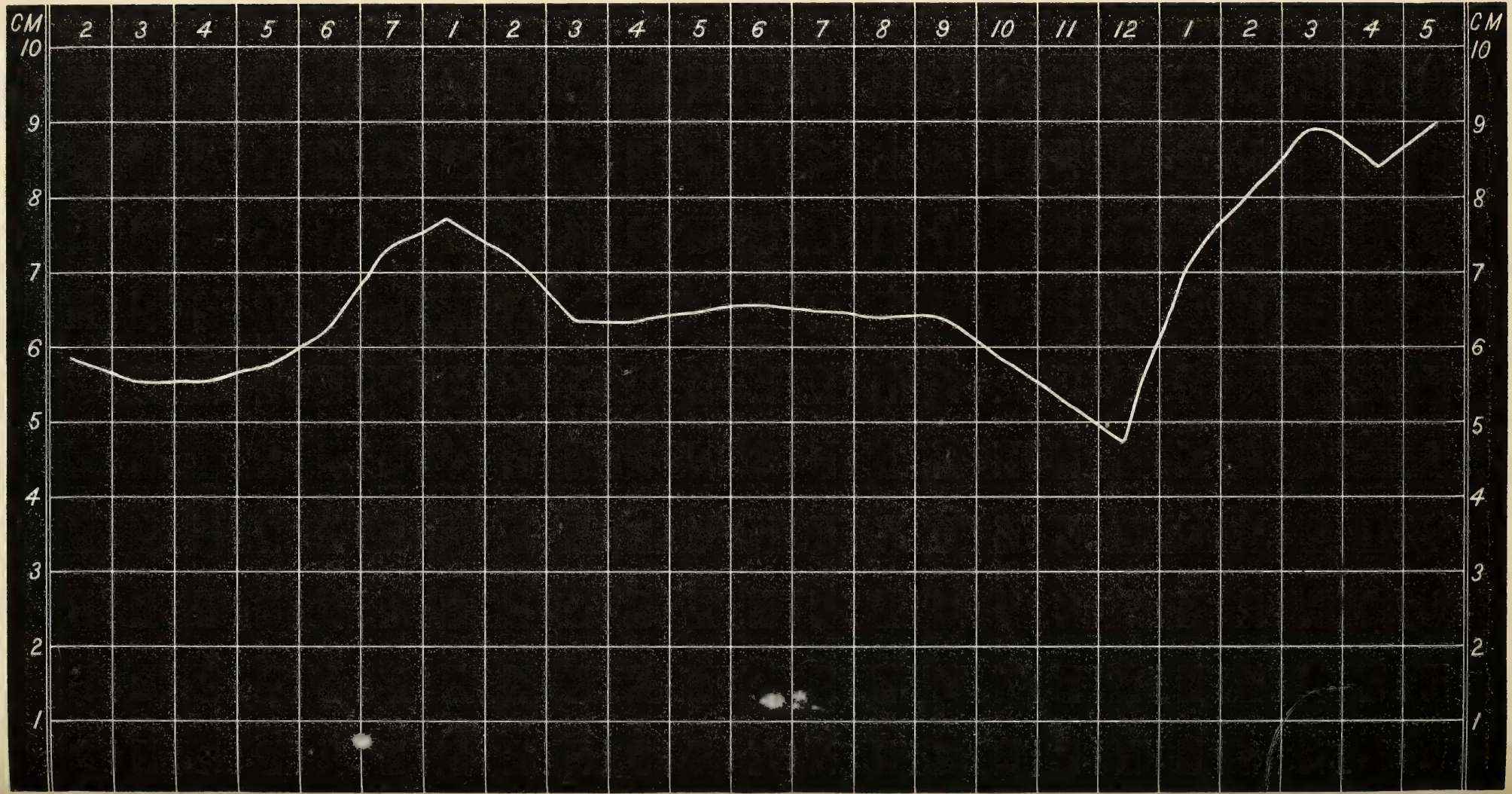
PERCENTAGE OF EACH REGION TO THE WHOLE.

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	Mean.		
Cervical.	21.05	21.4	22.3	20.9	18.6	21.3	19.7	2.19	23.2	21.	22.73	21.5	21.	21.5	21.3		Proportions of bones of regions.
Dorsal.	49.05	49.4	50.5	48.9	51.5	50.9	51.3	52.4	49.	52.	47.73	49.5	47.5	52.6	50.2		
Lumbar.	29.9	29.2	27.2	30.2	29.9	27.8	29.	25.7	27.8	27.	29.54	29.	31.5	25.9	28.5		

CHART III.

Curve of Breadth of Transverse Processes of Eight Spines.

Actual Scale.



I have measured also the spread of the transverse processes in ten of the same spines, which, excluding those having an extra vertebra, gives us the measurements of eight spines shown in Table VI.

There are but trifling differences in the cervical region till we reach the sixth, which is usually somewhat larger than the second. There is then a decided rise to the first dorsal, and a corresponding decrease to the third, after which there are no variations of any consequence till we reach the ninth, after which these processes nearly disappear, and there is accordingly a great fall of the curve at the twelfth. With the lumbar region the transverse processes become very much developed, that of the third and fifth being the broadest. Topinard[1] has made similar measurements on ten spines, and, though he gives neither curves nor all his figures, he gives enough of the latter to show how nearly his results correspond with mine. The mean breadth at the first dorsal was .080 m., whence it decreased to the fifth, where it was .064 m. This breadth was kept pretty constantly till the ninth, when it again diminished till the twelfth, where it was .052 m. The third and fifth lumbar were .090 m., the fourth being less.

There are certain vertebræ usually spoken of as peculiar ones, which can be recognized by themselves without the necessity of comparison with others. Setting aside the atlas and axis which, of course, are unmistakable, we have in this category the seventh cervical, the first, tenth, eleventh and twelfth dorsals and the first and fifth lumbar. I propose, not to give a text-book account of these bones, but to consider how far it is true that they can be distinguished and what variations are likely to occasion error.

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[1] Les anomalies de Nombre de la Colonne Vertébrale chez l'Homme, par M. Paul Topinard, Révue d'Anthropologie, Tome VI. Numero 4, 1877.

TABLE VI.

BREADTH OF TRANSVERSE PROCESSES IN CENTIMETRES.

No.	1.	D.	2.	D.	3.	D.	5.	D.	6.	D.	9.	D.	10.	D.	11.	D.	13.	D.	*14.	D.	†Mean.	D.	In inches.	D.	No.
2	6		5.8		5.1		5.6		6.1		6.4		5.9		5.8		5.7		5.7		5.8		2.2		2
3	5.7	-.3	5.4	-.4	5.2	.1	5.5	-.1	6.	-.1	5.7	-.7	5.7	-.2	5.3	-.5	5.5	-.2	5.8	.1	5.5	-.3	2.15	-.05	3
4	5.6	-.1	5.6	.2	5.2	0	5.6	.1	6.1	.1	5.7	0	5.2	-.5	5.5	.2	5.7	.2	6.1	.3	5.5	0	2.15	0	4
5	5.7	.1	5.8	.2	5.5	.3	5.8	.2	6.3	.2	6.	.3	5.7	.5	6.	.5	6.2	.5	6.5	.4	5.8	.3	2.2	.05	5
6	5.7	0	5.8	0	6.1	.6	6.3	.5	7.1	.8	6.	0	5.9	.2	5.8	-.2	6.4	.2	6.4	-.1	6.1	.3	2.4	.2	6
7	7.	1.3	7.5	1.7	7.8	1.7	7.3	1.	7.7	.6	7.5	1.5	7.	1.1	7.1	1.3	7.2	.8	7.9	1.5	7.3	1.2	2.9	.5	7
1	7.9	.9	7.8	.3	7.1	-.7	7.9	.6	7.5	-.2	8.1	.6	7.4	.4	8.	.9	8.1	.9	7.9	0	7.7	.4	3.	.1	1
2	7.7	-.2	7.7	-.1	6.5	-.6	6.7	-1.2	6.8	-.7	7.8	-.3	6.9	-.5	7.5	-.5	7.3	-.8	6.8	-1.1	7.2	-.5	2.8	-.2	2
3	6.6	-1.1	6.8	-.9	6.	-.5	5.7	-1.	6.	-.8	6.5	-1.3	6.4	-.5	6.9	-.6	6.8	-.5	6.4	-.4	6.3	-.9	2.5	-.3	3
4	6.6	0	6.6	-.2	5.8	-.2	5.7	0	6.2	.2	6.6	.1	6.2	-.2	6.7	-.2	6.8	0	5.9	-.5	6.3	0	2.5	0	4
5	6.6	0	6.5	-.1	5.8	0	5.7	0	6.6	.4	6.8	.2	6.5	.3	6.9	.2	6.8	0	6.1	.2	6.4	.1	2.5	0	5
6	6.7	.1	7.	.5	6.	.2	6.	.3	6.9	.3	6.8	0	6.4	-.1	7.1	.2	6.8	0	6.3	.2	6.6	.2	2.6	.1	6
7	6.2	-.5	6.6	-.4	5.9	-.1	6.	0	7.1	.2	6.8	0	6.6	.2	6.9	-.2	7.1	.3	6.7	.4	6.5	-.1	2.55	-.05	7
8	6.2	0	6.9	.3	5.8	-.1	6.3	.3	6.8	-.3	6.6	-.2	6.3	-.3	6.9	0	6.9	-.2	6.6	-.1	6.4	-.1	2.5	-.05	8
9	6.5	.3	6.7	-.2	5.8	0	6.	-.3	6.8	0	6.3	-.3	6.2	-.1	7.2	.3	6.9	0	6.6	0	6.4	0	2.5	0	9
10	5.8	-.7	5.8	-.9	5.8	0	5.2	-.8	6.	-.8	6.1	-.2	6.1	-.1	6.3	-.9	6.8	-.1	6.	-.6	5.9	-.5	2.3	-.2	10
11	5.2	-.6	5.	-.8	4.6	-1.2	5.1	-.1	5.5	-.5	5.5	-.6	5.8	-.3	5.9	-.4	6.2	-.6	5.3	-.7	5.3	-.6	2.1	-.2	11
12	4.8	-.4	4.2	-.8	5.1	-.5	5.1	0	5.	-.5	4.4	-1.1	5.3	-.5	4.6	-1.3	5.2	-1.	4.9	-.4	4.8	-.5	1.9	-.2	12
1	6.8	2.	7.5	3.3	7.2	2.1	6.7	1.6	8.3	3.3	5.8	1.4	7.5	2.2	8.5	3.9	7.5	2.3	4.3	-.6	7.3	2.5	2.9	1.	1
2	8.2	1.4	8.	.7	8.	.8	8.	1.3	8.5	.2	8.2	2.4	7.9	.4	8.5	0	8.1	.6	7.4	3.1	8.2	.9	3.2	.3	2
3	8.4	.2	8.7	.5	8.9	.9	9.2	1.2	9.7	1.2	9.1	.9	10.1	2.2	8.9	.4	8.9	.8	8.4	1.	9.1	.9	3.6	.4	3
4	9.	.6	9.	.3	8.	-.9	8.3	-.9	8.	-1.7	8.7	-.4	9.1	-1.	8.	-.9	9.9	1.	8.1	-.3	8.5	-.6	3.3	-.3	4
5	9.5	.5	9.3	.3	8.5	.5	9.4	1.1	‡		8.7	0	9.	-.1	9.3	1.3	7.7	-2.2	8.1	0	9.1	.6	3.6	.3	5
6																	8.5	.8	8.9	.8					6

REMARKS.

* Contains 13 dorsal vertebræ.

† Mean, excepting Nos. 13 and 14.

‡ Abnormal. The processes unite with the sacrum.

NOTE.—The numbers at the top of the columns refer to the same spines as those in Table IV. The smaller number is accounted for by the fact that two of the spines in Table IV. were of skeletons split in the middle, and two had suffered so much in the transverse processes as to prevent perfect accuracy in measurement.

There is little danger of mistaking the last cervical vertebra for any of the preceding cervical ones, on account of its general resemblance to the dorsal vertebræ. The long nonbifid spinous process, but slightly grooved on its underside, is very different from those above it. The greater development of the posterior root of the transverse process and the stunting of the anterior root are characteristic. The foramen at the base of this process is very variable and of little use as a sign. The absence of an articular facet for the head of a rib distinguishes it at once from a dorsal vertebra. The only case in which it is really liable to be mistaken is in the case of a cervical rib. This is usually very small, and the minuteness of the facet would lead to its detection. I cannot remember having seen one that could not be distinguished from a first dorsal, but I would not deny the possibility that it might bear so large a rib (and perhaps be marked by a partial facet for the head of the next rib) that it would be, if taken alone, of doubtful diagnosis.

The facets for the heads of the ribs on the first dorsal are subject to some variation. That for the first may not be quite complete, and the size of the facet on the lower border is doubtful; still, except in the case of the disturbing influence of a cervical rib, I think this vertebra cannot be mistaken, and very rarely even then.

The tenth, eleventh and twelfth dorsal vertebræ are situated at a part of the spine where anomalies are not uncommon, and where absolute regularity is almost unknown. The shortness of the transverse process in the tenth, the breaking up of it into three knobs in the eleventh, and their reduction in size in the twelfth, are very characteristic. The arrangements for the articulation of the heads of the ninth and tenth ribs are liable to variation, and indeed are differently described in works on anatomy. In the eighth edition of Quain it is stated that the last two dorsal vertebræ

have each an entire facet for the head of the rib, and the tenth usually has the same, in which case, of course, the body of the ninth has only half a facet at its upper border. The same authority also states that the transverse processes of the eleventh and twelfth have no facet for the tubercle of the rib, implying that the tenth has. If this were constant, the ninth dorsal could be recognized by the fact that its body bears but one half-facet, that on the upper border. Let it be remembered, that if the facet on the tenth vertebra is incomplete it does not follow that any would be found on the ninth, as the rib may rest on the interarticular fibro-cartilage.

Prof. Struthers[1] examined twenty-one sets of vertebræ for these points. I omit the details, which are rather confusing, and give his results. "In seventeen of the twenty-one the facet on the tenth was not complete, at least the fibro-cartilage being necessary to its completion; and in ten of the twenty-one the ninth vertebra had a lower body-facet in at least three on both sides, and in seven others certainly on one side. * * * * the costo-transverse facet of the tenth dorsal vertebra was wanting, on both sides in four, on one side in two; and its presence was uncertain in one case on one side and in another on both sides." Some of these spines presented anomalies. Excluding spines thirteen and fourteen of my series, each of which had an extra vertebra, I find of the twelve[2] remaining that the facet on the tenth was incomplete in eight spines, one of which, however, had it complete on one side. The ninth had a lower facet in four cases, and one was doubtful. The transverse process of the tenth had a facet in five cases and three were doubtful. It appears from this that in most cases the facet on the tenth is imperfect, and that not uncommonly it encroaches on the ninth.

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[1] Prof. Struthers. Variations of the Vertebræ and Ribs in Man. Journal of Anatomy and Physiology. November, 1874.

[2] It must be remembered that two of these showed only one half of each vertebra.

The facet on the transverse process of the tenth is very uncertain. There is, I think, no doubt that the last three dorsal vertebræ and also the ninth can usually be recognized even when found alone; still, doubtful cases may occur. The narrowing of the transverse processes and the smallness of the facet they bear (if there be any), will go far to point out a tenth dorsal. The size of the facet on the upper border cannot be absolutely relied on to distinguish the ninth from the tenth. The narrowing of the transverse processes at the tenth cannot be certainly seen without the ninth being present for comparison; but we can have recourse to the proportion of the height of the body of the vertebra to the spread of the transverse process. In the upper part of the column there is so little variation in this respect that the test is useless. In the last two dorsal it is superfluous, and it may be doubtful if it is of much value in the lumbar region.

The proportions of the tenth dorsal, however, are sufficiently different from those of the ninth to be of value in many, though not in all cases. I give the proportion of the height of the bodies to the breadth of the transverse processes (reckoning the latter at 100) in eight spines, and also the mean. In only two (Nos. 3 and 10) is there any marked difference from the others.

TABLE VII.

No. of Spine.	9th Vertebra.	10th Vertebra.
1	29.2	39.6
2	32.8	39.6
3	31.	31.
5	35.	42.3
6	30.8	40.
9	23.8	31.1
10	33.8	34.4
11	26.3	30.1
Mean . . .	30.3	36.

Another peculiarity of the twelfth dorsal, which, though not constant, is far too frequent to be overlooked, is the shape of the spinous process, which resembles, as a rule, that of a lumbar vertebra far more closely than do those of its predecessors. It projects nearly straight backward, and its extremity is broad from above downward.

It is known that the change in direction of the articular processes from the dorsal to the lumbar type occurs suddenly between the twelfth dorsal and the first lumbar. The superior processes of the twelfth dorsal look backward, and the inferior ones of the vertebra above lie against them; but the inferior processes of the twelfth look outward and are inclosed by the upper ones of the first lumbar. Here we have a sudden change of type. Exceptions occur not infrequently. The change may take place gradually, the processes between the eleventh and twelfth dorsals taking an intermediate position, or suddenly at another point. Sometimes the change occurs on one side at the normal place, and on the other side at the joint above or below. Struthers[1] describes ten cases in which the change was abnormal, but does not mention how many spines he examined. Topinard[2] states that of sixty-eight cases fifty-one were normal, but twelve times the change occurred between the eleventh and twelfth dorsals, and five times between the first and second lumbar. He does not mention, however, whether there was in all these spines the normal number of vertebræ.

Of the spines numbered 1 to 12 which I have examined, six were in this respect normal. In three the change occurred between the eleventh and twelfth, but in one of them it was not quite complete. In two it was gradual, extending through two spaces, the normal one and that above it. In the remaining one the right superior process of the twelfth

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[1] Loc. cit. [2] Loc. cit.

had an intermediate direction. In specimen No. 13, which had six lumbar vertebræ, the change was at the normal place; but in specimen No. 14, which had thirteen dorsals, the change was half accomplished between the eleventh and twelfth. Adding these fourteen cases to Topinard's sixty-eight, we find that in eighty-two spines the change was normal in fifty-eight.

The first lumbar is sometimes mentioned as a vertebra to be recognized, but I have doubts if when taken alone this is always possible. The body presents (to my mind) no distinguishing marks, and we must depend solely on the transverse processes, which are shorter and more slender than the following ones.

The fifth lumbar is easily recognized by the much greater height of the front than of the back of the body, the smallness of the spinous process and the breadth and heaviness of the transverse processes.

The presence of an extra vertebra would of course affect the height, and if many pieces from the lower part were wanting, as for instance four lumbar vertebræ, it would be, as a rule, impossible to tell whether there was one or not. The rarity of the occurrence makes it, however, improbable in any given case. One particular form deserves mention. It is a sacro-lumbar vertebra between the two regions and having the characteristics of each. The transverse processes are very broad, the spinous is rudimentary, and the thickness of the body, which is decidedly less than that of the front of a fifth lumbar, is about the same before and behind.

By means of the preceding tables we shall be able to estimate pretty accurately the height of the bodies of several vertebræ should they be wanting, and to exclude those belonging to other spines that may be introduced by accident or design.

There will probably be some indications whether the ribs belong to the spine or not, but this may remain rather un-

certain. It is not difficult, however, to determine whether the ribs belong together. Place those of each side in order and observe the regularity of the various changes. The ribs increase in length from the first to the seventh or eighth (inclusive), sometimes to one, sometimes to the other. The twelfth is about as long as the first, but is very variable. The angle steadily recedes from the tubercle as we go down. The two sides correspond pretty closely, but the two lowest ribs, and especially the last, are not amenable to rules.

It can easily be imagined that it might be desirable to estimate the length of the hand, to decide, for instance, whether it could have caused an imprint found in dust, on paint, etc., and also to decide whether the bones found together belonged to one hand or were parts of several skeletons.

Ecker[1] has recently stated that there is great uncertainty as to whether the index or the ring finger is next to the middle finger in length, but later Prof. Mantegazza (Proceedings of the Lombard Institut) has published some extensive observations which go far to remove it. Of 712 cases, in 589 the ring finger was longer than the index, and shorter in 91. The index is more likely to be longer than the ring finger in women than in men. I am inclined to believe that when the index is the longer this is due chiefly to the metacarpal bone.

But little anatomical knowledge is necessary to identify each of the five metacarpal bones, the phalanges of the thumb, and to divide the other phalanges into proximal, middle and terminal. It may be important to go further and to distinguish the individual bones, or failing that, to assert which can be recognized and which not.

But very little is to be found in the standard works on anatomy. Ward, with less than his usual closeness of

[1] Archiv für Antropologie. Band VIII. Heft. 1. 1875.

observation, declares that the phalanges of each row can only be known by their relative size, and thus that the whole set must be present to identify one. He states that the phalanges of the middle finger are the longest, those of the ring finger next, of the fore finger third; but that in width and thickness the ring finger comes before the index.

Sappey distinguishes the phalanges of the proximal row by their superior extremities, as follows:

The Index. The outer tubercle is much the more prominent, and is placed on the dorsal surface, *i. e.* back of the outer edge of the bone.

The Middle Finger also has the outer tubercle most prominent. It is often partially divided into a dorsal and palmar portion: the latter alone is larger than the inner tubercle.

The Fourth Finger has the two tubercles of equal size and shape.

The Little Finger has a tubercle on the inner side of the articular surface and on the dorsal aspect of the bone.

It will not do to consult skeletons in studying this point, as we can have no certainty that they are correctly articulated; therefore I have dissected the fingers of ten hands to obtain trustworthy data. Of these ten hands the ring finger was longer than the index in eight before dissection; but in all cases after the separation of the fingers from the metacarpal bones the ring finger was the longer.

As to the length of the proximal phalanges, that of the middle finger is the longest in all but one, in which it is doubtful, owing to an injury of the bone. This case is one of those in which the index was longer than the ring finger. The first phalanges of the fore and ring fingers are often very nearly equal in length, but the latter is usually the longer. The signs in the tubercles mentioned by Sappey are sometimes as clear as can be desired, but at other times

they are not. By referring back to the account of them, it will be evident that there is no way of deciding whether the phalanx of the fourth finger is right or left. The signs on the third are very uncertain; but on the other hand the first phalanx of the index is generally easily recognized by its external tubercle projecting towards the dorsum, and by another sign which I have never seen described, but which, if not unfailing, is at least very characteristic. This is the greater flatness of the dorsal surface of the bone. On the middle finger there is some question of a median dorsal ridge, and on the fourth this is very marked; a section of the shaft being nearly triangular. The phalanx of the fifth finger can be easily recognized by its size, if there be but a few other pieces for comparison. It is but a little longer than the longest piece of the second row. Whether we can distinguish between right and left with any certainty, except for the first piece of the fore finger, may be doubtful.

I have found no distinguishing marks for the phalanges of the second row, except as regards length. That of the middle finger is the longest, that of the ring finger comes next, and sometimes the two are about equal. I have always, as far as I know, found this phalanx in the index shorter than in the ring finger, even when the index was the longer. That of the little finger is both the shortest and lightest.

It seems hardly worth while to discuss the differences of the terminal phalanges.

In estimating the length of the hand (including the wrist) we have to make additions for the soft parts on the upper side of the carpus, say 1 m.m., and on an average, say 2 m.m., for each of the following joints: the inter-carpal, the carpo-metacarpal, the metacarpo-phalangeal and two inter-phalangeal, in all 13 m.m. (if anything too little), and add, say 3 m.m. for soft parts at the end of the fingers. In all, $1\frac{1}{2}$ c.m., or say $\frac{5}{8}$ of an inch, which is probably nearer.

All the bones of the tarsus, metatarsus and the phalanges of the great toe, are easily identified. The phalanges of the first row diminish regularly in length from the second outward. Those of the two other rows are rather insignificant for special description. Just as in the hand there was some question whether the index or ring finger was next to the middle in length, so in the foot it may be doubted whether the great toe or the second forms the front point of the foot. Sometimes we find one more prominent, sometimes the other. I know of no statistics on this point, but from my observations I feel very sure that the great toe is longer much more frequently than the second, and that not rarely they are nearly even. In casts of antique statues I have frequently found them thus, but I do not remember to have seen the second made to project beyond the first. I am also inclined to believe that in many cases in which the second toe appears the more prominent, this is due to the soft parts in front of it and not to the bone.

To estimate, then, the length of the foot, we wish to reproduce the line through the great toe. Most anatomists state that the base of the first metatarsal bone is united by a joint solely with the internal cuneiform. This, no doubt, is the rule; but it is not generally known that very often the first metatarsal has a small facet on the outer side of its base that articulates with the second metatarsal. In six feet that I have dissected, during the preparation of this work, I have found this arrangement three times. It is important; for if this facet be present, we can determine the length of the foot in some cases in which, owing to the absence of certain bones, we might be unable to do so.

In putting the bones together allowance is to be made for the articular cartilage and synovia of the five joints that occur in the line of the great toe, and my observations make me estimate that $\frac{1}{8}$ of an inch on the average is about right, *i.e.* $\frac{5}{8}$ of an inch for the total. This is, I think, more likely

to be too much than too little, just the reverse of the hand, so in changing it to the metric system we may deduct rather less than $\frac{1}{16}$ of an inch and call it 1.5 centimetres.[1] For the thickness of the soft parts behind the os calcis we may add $\frac{1}{4}$ of an inch, and for those in front of the great toe rather less, say $\frac{3}{16}$, making in all $1\frac{5}{8}$ inches or 4.13 centimetres.

In estimating the length of the hand and foot, it is well to fix the bones in their proper places by strong glue or Chinese cement.

CHAPTER III.

THE SEX.

In considering the sex, we may also defer noticing the proportions of the body and take up the chief parts in succession; with a single preliminary remark. The shape of the female pelvis is essentially a sexual characteristic, and its peculiarities have a secondary influence on some other parts, as for instance the femur, but in other respects "woman is the lesser man," and her bones are more delicate, with slighter prominences for muscular attachments.

The differences in the skull are for the most part precisely such as would be expected. It is smaller in the female and of more delicate structure. The antero-posterior diameter is, however, but very slightly less than that of the male. Hence the female skull is the longer in proportion to both breadth and height. (Sappey.) The most essential cha-

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[1] It must be confessed that this difference is too insignificant to demand serious attention.

racteristic of the female skull is the want of development of the facial portion. The jaws are smaller, lighter and narrower, the superciliary ridges are less pronounced, the frontal sinuses less developed. I am not aware of having seen any special mention of the smallness of the mastoid processes, but I am inclined from my own observations to think it a very significant feature. Let it not be forgotten, however, that the sex in many skulls cannot be determined with certainty.

In Guy and Ferrier's Forensic Medicine there is the following astonishing statement, which Woodman and Tidy reproduce: "The vertebral column is longer and the bodies of the vertebræ are deeper in the female than in the male." If, as one would suppose, this means that the column is actually longer, the statement is too absurd for criticism; if it means that it is relatively longer, the statement is literally true, but the greater proportionate length is too slight to be of any importance. I am not inclined to believe in the greater depth of the bodies of the vertebræ. Luschka has declared that the lumbar region is, in proportion to the length of the spine, longer in woman. The researches of Aeby and Ravenel[1] confirm this, but the excess is most trifling and of no practical consequence. Apart from the smaller size and greater delicacy of the female vertebræ, the only sexual characteristic is that in the dorsal region the transverse processes are turned more strongly backward. To sum up, the spinal column, exclusive of the sacrum which we shall consider with the pelvis, presents no sexual characteristics of value.

If the thorax be in place on the body, something may be determined by it, but the indications from separate ribs amount to little. Corresponding with the inclination of the

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[1] Ravenel. Die Maasverhältnisse des Wirbelsäule und des Rückenmarks beim Menschen. Zeitschrift für Anatomie und Entwickelungsgeschichte. Band II. Hefte 4 und 5. 1877.

transverse processes just mentioned, the ribs are bent more backward in the female, and thus the spinal column projects farther into the chest than in the male.

The chest is also relatively narrower, and consequently a horizontal section would be more heart-shaped than in man. The ribs also are more inclined downward.

The sternum in the female is much smaller and lighter than in man. This is about all that we are justified in saying, and I should leave the subject here were it not that some authors have given rules that must be contradicted. Hyrtl[1] writes as follows:—"I find the difference between the male and female sternum so clearly expressed by the proportion of the manubrium to the body (*i.e.* the middle piece), that it is hardly possible to err in determining the sex. The manubrium of the female sternum exceeds in length that of half the body; while the body in the male sternum is at least twice as long as the manubrium." This statement is reproduced in Henle's great work on anatomy. Luschka[2] says, "The body is usually twice as long as the manubrium in woman, and two and one half times as long in man." The latter statement is, I believe, entirely incorrect, and the former has so many exceptions that it must be put aside. The following table shows the length of these parts in six skeletons and six fresh bodies. No skeletons have been admitted which did not allow the sex to be easily distinguished. I have also measured these parts in Braune's splendid atlas of frozen sections, in which there are life size illustrations of a median section of a man and a woman.

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[1] Topographische Anatomie.
[2] Anatomie des Menschen.

TABLE VIII.

SHOWING THE PROPORTIONS OF THE STERNUM IN INCHES.

	Male.			Female.		
	Manubrium.	Body.	Total.	Manubrium.	Body.	Total.
Skeletons.	2. 1.6 2. 2.	3.3 4.8 4.5 3.8	5.3 6.4 6.5 5.8	2. 2.	4.2 3.6	6.2 5.6
Subjects.	2. 1.7 2.	5.7 4.2 3.6	7.7 5.9 5.6	1.7 1.8 2.	4.2 3.1 3.2	5.9 4.9 5.2
Braune's Plates.	2.5	3.8	6.3	1.8	3.8	5.6
Average.	Manubrium is to body as 47 is to 100.			Manubrium is to body as 51 is to 100.		

The averages following the table confirm Hyrtl's law, but the difference they show between the sexes is very slight. Moreover, we find that precisely one half of the specimens of each sex, viz., four male and three female, are exceptions to the alleged rule, which cannot therefore be accepted as established.

The collar bone, as is well known, is straighter and lighter in woman. The greater lightness of structure of the scapula has always struck me as worthy of more special notice than it has received.

Two points in the femur are usually mentioned as of sexual significance. They are, that in the female the long axis of the neck forms more nearly a right angle with the shaft, and the other that when the femur is held with its condyles resting on a level the shaft inclines further outward than in man. It is evident that these phenomena arise from the same cause, viz., that woman having a broader pelvis, and at the same time shorter legs, this arrangement is

necessary in order to bring the knees together. Nevertheless, its importance has been very much exaggerated. There is no doubt that a short man with a broad pelvis would have femora in this respect more of the female type than a tall woman, and there is great individual variation. Sappey, who follows Rodet in putting the angle of the neck with the shaft at 130°, declares that it ranges from 121° to 144°, a difference of 23 degrees, which is far greater than can be attributed to the influence either of sex or of age. We may conclude that though the usual statement is theoretically correct, it is by itself of no diagnostic value.

To place the pelvis in its position, as well as to determine its sex, it is desirable that its pieces if separated should be put together, which will also give us data for measuring the breadth of the hips and the diameters, should we wish to do so for other reasons. All that is to be supplied is the soft parts in the two sacro-iliac synchondroses and at the symphysis. The two former require little if any more than $\frac{1}{8}$ of an inch apiece; the symphysis is variable, ranging from $\frac{1}{4}$ to $\frac{1}{2}$ an inch, and perhaps even further. The best method is to estimate the deficiency on the bones themselves by holding the sacrum and the innominate bones as nearly in position as possible, and seeing how much is needed.

The sacrum must be considered separately. It is more triangular in woman and broader in proportion to its length. Much has been written about the amount of curvature, and very high authorities have expressed very different views with decision. My own observations confirm decidedly the views expressed by Ward in his Osteology, that the male sacrum is the most curved and also the most regularly curved, while the upper part of the female sacrum is nearly straight and the lower half more or less curved. He omits, however, to call attention to a transverse furrow in the middle of the third sacral vertebra, which is usually seen in both sexes, but which is deepest in the female and is the point of

a marked change both of direction and character. The straight part is above it, the curved below in the female sacrum.

The pelvis as a whole is of far greater value than all the rest of the body together. Apart from showing in the male far stronger ridges for muscular attachments, it presents a difference in plan. In man it is deep, and in woman broad. Numerous measurements of the diameters of the true pelvis have been taken by observers of all nations. I do not profess to decide which of these is the most accurate, and give the following table from the eighth edition of Quain's Anatomy.

TABLE IX.

TABLE OF MEASUREMENTS OF THE TRUE PELVIS, IN INCHES — FROM THE EIGHTH EDITION OF QUAIN'S ANATOMY.

Diameters.	Male.			Female.		
	Brim.	Cavity.	Outlet.	Brim.	Cavity.	Outlet.
Transverse.	4.5	4.5	3.5	5.25	5.	4.75
Oblique.	4.25	4.5	4.	5.	5.25	4.75
Antero-posterior.	4.	4.5	3.25	4.5	5.25	5.

There is no wisdom in attempting to re-produce the oblique diameter of the outlet which has no existence in the bones alone, and even if re-produced is of no special value. The ilia flare outward in the female, so that the distance between the crests and the anterior superior spines is greater than in the male, but there is more variation here than in the true pelvis. I have met with a pelvis in which the true pelvis showed signs that would leave no room for doubt that it was female, but in which the anterior superior spines of the ilia were nearer together than in the average male pelvis. The spread of the arch of the pubes is one of the very most important points. It is wider in the female. It is a re-

markable male pelvis in which it exceeds 80°. The symphysis itself is also lower in woman. The turning out of the edges of the borders of the arch has by some been looked upon as a female characteristic. It is probable that they are more everted in woman, but they are more or less so in both sexes, and I cannot admit that any deduction can be drawn from them.

The shape of the thyroid foramina (which are said to be more triangular in woman) is of little importance. The promontory of the sacrum projects further in man than in woman. I will quote also some points mentioned by Verneau:[1] that the pubic spines are farther apart in woman, that the same may be said of the ischia; these in man are rarely more than 107 m. m. (4.21 inches) apart, and often less than 90 m. m. (3.54 inches), while in woman they are often more than 107 m. m. apart, and never less than 90 m. m. He states also that in man the spines of the ischia are sometimes inside the posterior inferior spines of the ilia, but that they are always outside of them in females.

CHAPTER IV.

THE AGE.

The age of the skeleton is far more difficult to determine than the sex. The latter, if all the bones be present, can almost always be made out beyond a reasonable doubt, but the former can rarely be given with any great accuracy. Besides the bones proper, we have the teeth which may be of some assistance. The adult skeleton may, as far as age goes, be divided into the following classes: First, up to the age of twenty-five in the male or twenty-two in the female, which we will call the immature stage; second, from thence

[1] Le Bassin dans les Sexes et les Races.

to about thirty, the young stage; from about thirty to about sixty, the mature stage; and finally the senile stage, which may begin at a very variable period.

Apart from the teeth, we have the following guides to an opinion: the union of the epiphyses, the obliteration of the lines of this union, the obliteration of the cranial sutures, the joining of distinct pieces, and finally senile changes in the shape and constitution of bones.

By the study of these appearances we may usually succeed in placing the skeleton within the limits of one of the four stages, but the great degree of individual variation must be ever before our minds. The skeleton is practically perfect at the end of the immature stage, viz., at twenty-five in the male and twenty-two in the female. All important epiphyses are firmly united, but the lines of union of some of the later ones remain distinct. Some of the smaller epiphyses may still be separate, or if united the lines of union are very striking. Of this class are some points on the transverse and spinous processes of the vertebræ, the flat plates that cover the ends of the bodies of the vertebræ, and the thin pieces that finish the crest of the ilium and the borders of the pubic arch. If the union of the epiphyses of any of the long bones is as yet imperfect, the skeleton will hardly be over twenty,—almost certainly not in the female,—and very soon after the beginning of the young stage these lines of union completely disappear. If these are closed, but the lines of the latter class of epiphyses very prominent, the body of the first sacral vertebra (not the lateral processes) being still distinct from that of the second, the skeleton is pretty certainly in the young stage. It is very certain that there is much difference between individuals in these respects, and it is for this reason that no table of the dates of the various ossifications is given. If any one doubts it, let him consult a few standard works on anatomy. The fact is, that the careful observations of some hundreds of skeletons

of known ages, needed to settle this point, are yet to be made.

The skeleton may now be said to be perfect, though some changes still occur, as the union of the main parts of the sternum and of the separate pieces of the coccyx and of that bone with the sacrum. The time and order of these changes, however, are so uncertain that I should recommend the expert to throw these bones entirely aside, excepting perhaps when he finds all the joints completely ossified, in which case he may assume that middle age (*i. e.* 40 years) has been reached and probably passed. The changes, however, in what I have called the mature stage are very difficult of definition: at the beginning of it the bones last mentioned are probably not completely consolidated; at the end, they probably are.

The changes of old age are not always the same, and the date of their beginning most uncertain. As a rule, the network of the spongy tissue and indeed the whole bone becomes lighter and more brittle, the walls of flat bones are apt consequently to approach each other and often to be united, and ultimately to become exceedingly thin. As Humphry asserts, there is no doubt that the bones sometimes become thicker and heavier. This is most frequently observed in the cranium, and is probably to be considered pathological. In either case the arterial grooves and Pacchionian depressions in the inner table become more marked. The closure of the sutures which usually begins in the mature stage is another of those signs that are too variable to be depended on. The shape of the lower jaw, the greater obtuseness of the angle, the atrophy of the alveolar process, are twice-told tales. They depend upon the loss of the teeth, and would consequently follow that accident at any age, though probably not to so great an extent in a young as in an old individual. It would be interesting to know whether a set of false teeth would tend to preserve the shape

of the jaw. The angle of the neck of the femur is stated to become smaller in old age, but as shown above, the range of individual variation exceeds that depending on age or sex. I would mention one peculiarity of the scapula, to warn others against error: it is that the tip of the acromion sometimes remains ununited throughout life. The ossification of the costal cartilages is very uncertain.

The teeth remain to be discussed. Those of the second set, with the exception of the wisdom teeth, are all present before the age which we consider. The wisdom teeth usually appear between eighteen and twenty-five, but they may appear at seventeen or not until thirty, or possibly not at all. They are like the trains of some railroads,—due when they arrive.

CHAPTER V.

THE TIME SINCE DEATH.

THE preceding section has shown how guarded the expert should be in any opinion he would express of the age. The most he can do is, in some cases, to make an approximate statement, but with the present question he is far more helpless. There is a good deal of very interesting reading concerning the experiments of Orfila, who buried and exhumed bodies after various periods, and concerning the appearance of the bodies of known men like Charles I., which were examined after the lapse of one or more centuries.

All this is curious, but unprofitable; we only know that we cannot give an opinion of any value. The nature of the soil, the amount of covering, as protection, the body may have had, the temperature, the rainfall, possibly (for any-

thing we know to the contrary) the nature of the body itself, must all modify the progress of decomposition to such an extent that the expert should not allow himself to express an opinion.

CHAPTER VI.

THE ESTIMATION OF THE HEIGHT.

This has usually been done in accordance with rules of proportions of the human figure which are not the most trustworthy guides. I believe it is far safer to put the bones as nearly into a correct position as possible, make proper allowance for the soft parts, and then measure the height. If certain parts are wanting they may be supplied, and then when the height has been found it will be proper to verify it by such laws of the proportions of the figure as we think deserving of confidence. Two points call for special mention in this connection: one, that the alleged height of the deceased is probably not correct, as it was probably taken in boots; and secondly, that the height is not a fixed quantity, as it is different in the morning and evening, and in the upright and recumbent positions. Hence, and owing to the difficulty of the investigation, no one should dare to say the skeleton is that of a person of precisely such a height, but that the height was about so and so, and certainly between such and such limits; or putting it a little otherwise, it is possible or impossible that this skeleton was of the alleged height of the deceased. The course to be followed is first to make out the length, and incidentally the curves of the spine, to put it upon the pelvis, which must be in its true position, and then to add the head above and the legs below.

Having ascertained that we have the bones of a single spine, it remains to place them correctly, which is perhaps the most difficult problem we have to deal with. Let it be remembered, first, that we can have for several reasons no absolute standard. All people do not have the same curve; apart from peculiarities of the original figure, the profession makes a great difference. The backbone of a soldier is not likely to be mistaken for that of a cobbler. Moreover, position makes a difference. The spine of a man on his back would not coincide with the curves it presented when he was on his feet; and there can be no doubt that the decrease of height at night takes place, at least in part, in the spine.

The vertebræ should be placed lying on the side in a bed of sand or putty sufficiently deep to reach the median line, and then should be arranged in what is believed to be the proper curve. A string should be stretched between two fixed points over the bones to represent a line supposed to be vertical when the body is upright. Absolute accuracy does not exist, but I hope to show that there is no room for serious error.

If the intervertebral cartilage should be fresh and apparently normal, so much the better; but if, as will probably be the case, so much time has elapsed since death that what remains of it is shrunken or distorted, it had better be thoroughly removed, as it will be only a source of error. Our task now consists in supplying the wanting cartilage in proper proportions, so that not only each vertebra shall be at the right distance from its neighbors, but that each region shall occupy its proper place, and that the curves shall not differ widely from what is taken as an average plan. In estimating the thickness of the cartilage, the heights of the bodies and the lengths of the regions, I refer only to the front of the spine, not because it is the same as the back, but because it is the only side that it is practicable to measure

accurately on other than a bisected spine. Most observers agree that, roughly speaking, the cartilage forms about a quarter of the movable part of the spine, but there is some difference of opinion as to the proportion in each region. The following table gives the results of four good anatomists and the mean of the same, which I shall accept.

TABLE X.

PROPORTION OF CARTILAGE TO BONE (THE LATTER ESTIMATED 100) IN THE DIFFERENT REGIONS.

Regions.	Aeby. In round numbers.	Sappey.	Cruveilhier.	Henle.	Mean.
Cervical.	40.	40.	62.5	25 (circa.)	41.9
Dorsal.	30.	20.	33.3	20 to 25 say 22.5	26.4
Lumbar.	60.	33.3	50.	33.3+* say 35.	44.6

* Henle says "rather more than a third."

The authors do not state how they divide the column into regions, but it is so evident that the cartilage above the sacrum belongs to the lumbar region that I have no doubt that all have held that the cervical region extends to the first dorsal vertebra, the dorsal region to the first lumbar, and the lumbar region to the sacrum.

We have next to consider the absolute and relative lengths of the regions, and we may accept the average at the end of the following tables. Ravenel and Aeby have measured

male and female spines separately, but the difference in the proportions is so trifling that I put them together. It may be doubted whether Tillaux's statement rests on his own measurements.

TABLE XI.

Regions.	Tillaux.		Cruveilhier.		Sappey.		Ravenel.		Mean absolute length.	
	c.m.	in.	c.m.	in.	c.m.	in.	c.m.	in.	c.m.	in.
Cervical.	15.	5.9	14.	5.5	13.	5.1	12.6	5.	13.6	5.3
Dorsal.	30.	11.8	27.	10.6	30.	11.8	27.	10.6	28.5	11.2
Lumbar.	16.	6.3	17.	6.7	18.	7.1	18.	7.1	17.2	6.8
Total.	61.	24.	58.	22.8	61.	24.	57.6	22.7	59.3	23.3

PROPORTIONS.

Regions.	Tillaux.	Cruveilhier.	Sappey.	Ravenel.	Aeby.	Mean Proportion.
Cervical.	24.6	24.1	21.3	21.95	20.6	22.51
Dorsal.	49.2	46.6	49.2	46.85	46.4	47.65
Lumbar.	26.2	29.3	29.5	31.2	33.	29.84

Total Length—100.

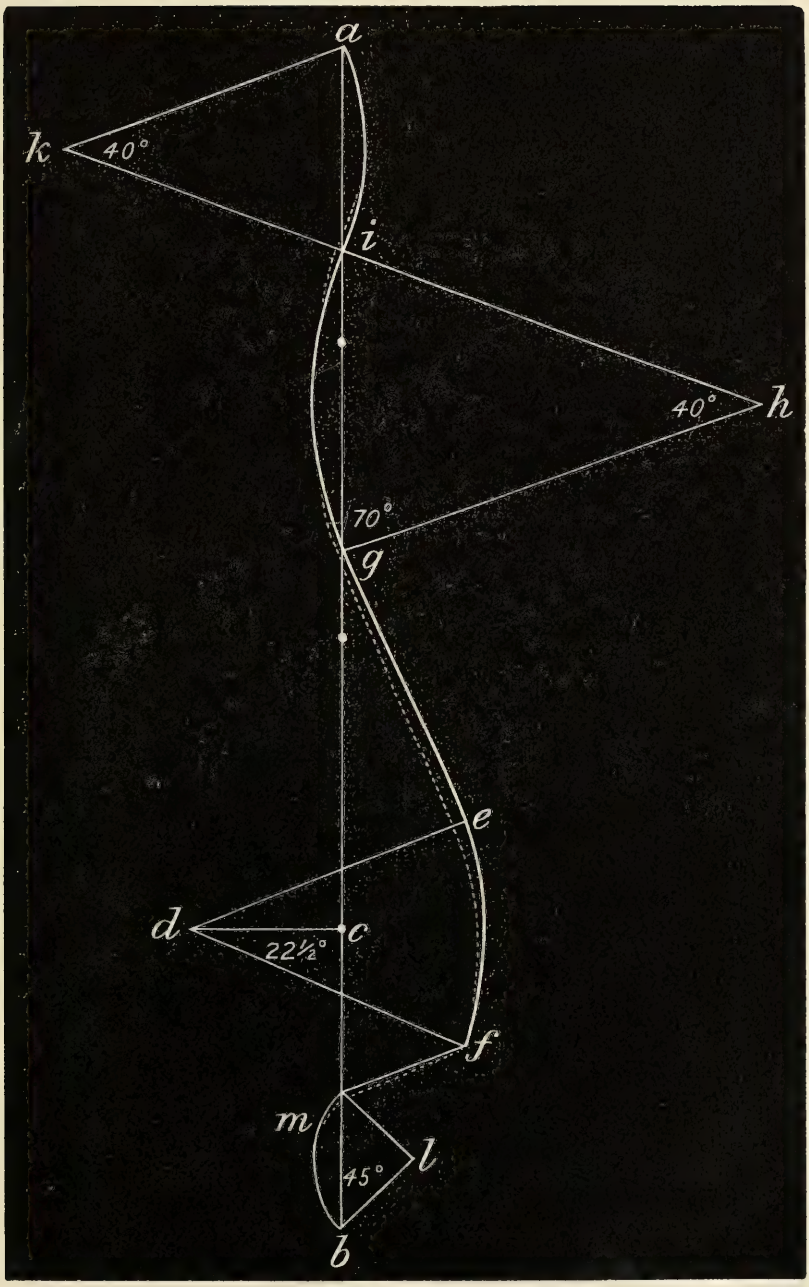
Comparing the mean length from atlas to sacrum (.593 m.—23.3 in.) with the average length of the bones alone as shown by the table of my twelve spines (.441 m.—17.25 in.), we find a difference of .152 m. (say 6 in.) to be accounted for by the cartilages: in other words, they form 25.6 per cent. of the entire length.

Now for the curves. Remember above all things that we are not to put the bones before us into purely arbitrary curves which they cannot be made to fit, but that we are to put them into the curve as nearly as possible which they occupied during life when the body was erect. This is important, for we are measured standing, and the curves are then more pronounced than when the body is lying down. Pictures of frozen sections of bodies are faulty in this respect, as the body is usually frozen lying. Neither are the curves quite correct that are found in spines separated from the body and deprived of the weight they usually bear, whether or not they be imbedded in plaster-of-Paris before being cut.

The vertebræ, as I have said, are to be imbedded in sand or putty, and first of all we need some general plan according to which to place them. This is given by Meyer.[1] It does not pretend to be absolutely correct, but it is a good working model. It is made as follows:—Draw a vertical line of about the length one would suppose a line *a b* to have, passing from the top of the atlas to the top of the coccyx. In the plan adjoining this description I will call this line 12 c. m. Divide this line into quarters, and call each quarter one unit of length. At the junction *c* of the two lower quarters erect a perpendicular *c d* running backward for the length of one half a unit. From *d* draw two lines *d e* and *d f*, each one unit in length, and each forming an angle of $22\frac{1}{2}^{\circ}$ with *c d*. Unite *e* and *f* by an arc of 45° of a

[1] Ueber die Normale Krümmung der Wirbelsäule von Freidrich Horner, Med. Dr. (Mit einer Nachschrift von Prof. Hermann Meyer in Zurich). Muller's Archiv. 1854.

FIGURE 1.



circle, the centre of which is at *d*. Draw a straight line *e g*, one unit in length, from *e* to the original vertical. From *g* draw the line *g h* 1½ units in length, and inclosing with *a g* an angle of 70°. From *h* as a centre draw the arc *g i* of 40°. Unite *h* and *i* and prolong this line for one unit, to *k*. From *k* as a centre, draw an arc of 40° from *a* to *i*. To make the pelvic portion, draw the line *b l*, ⅓ of a unit, at an angle of 45° with *a b*, and with a radius of this length draw an arc *b m* of 90°. Then unite *m* and *f*.

This may appear complicated, but if the directions are followed step by step it is perfectly simple. The line is supposed to represent the front of the column. It is important to notice that *i* is at the lower border of the 6th cervical, *g* at the upper border of the 9th dorsal, *e* at the lower border of the 2d lumbar, and *m* at the middle of the 3d sacral vertebra. The curve is essentially that of the upright position, in contradistinction to the reclining one. It is not an easy or natural position, but it is precisely that taken by a person drawing himself up to his full height, and almost leaning against a wall, as one does when being measured. This therefore is another recommendation.

Meyer corrects this figure arbitrarily by the dotted line which I copy from his figure. I can give no rule for drawing it, but it is not an unjustifiable liberty to make so slight a change in the curve.

Having placed the bones according to this plan, remember the original divisions of the line *a b* into quarters. According to Henle the middle of this line is opposite the 11th dorsal; the first and second quarters meet opposite the lower border of the 3d dorsal, and the two lower quarters opposite the lower edge of the 4th lumbar. I have found these proportions pretty accurate.

It is possible the figure may be further modified; for besides endeavoring to approximate Henle's divisions into quarters of the length in a straight line, we must also take care that

each region has its proper share in the length measured along the curves of the anterior surface as shown by the tables, and also that in each region the cartilage shall have its proper proportion. In this way we must experiment until the bones are so placed that though they may (and probably will) correspond precisely with none of the figures, geometrical or arithmetical, yet the mean cannot be other than practically correct for the individual case. I do not intend to say that one should try to produce a figure that should differ from one rule just as much as it does from another; but simply that the expert should try to reconcile these rules as much as possible, being guided by his anatomical knowledge and common sense in difficult cases. The result thus obtained will be far more worthy of confidence than would be the length of the spine obtained by calculations from proportions of the parts of the body.

Having arranged and measured the spinal column, we proceed to place it upon the pelvis, and this is a most important step, for the position of the pelvis is the key to the whole structure. If we imagine the pelvis mounted on an axis running through the heads of the femora, it is easy to see how any tipping forward or backward must affect the position of the sacrum and consequently the height. There is no occasion to quote the various rules given by authorities for putting the pelvis in position. It necessarily varies, as do the curves of the spine, with the position of the body in all persons, and the inclination under similar circumstances must vary with the figure. The promontory is, according to Nægele, in woman about $3\frac{3}{4}$ inches above the level of the symphysis pubis; probably in man it may be a little further distant. The line running from the promontory to the top of the symphysis forms an angle with the horizon of from 55° to 65°. 60° is not far from the truth in most cases, but it must be remembered that this angle must be greatly affected by the form of the promontory.

The normal conjugata of Hermann Meyer is, I believe, far the most trustworthy guide of this nature. It is a line running from the top of the symphysis to the transverse depression in the third sacral vertebra, and normally forms an angle of almost precisely 30° with the horizon. The only difficulty I see in applying this rule is in cases of six sacral vertebræ; and of course the same difficulty would in such cases apply to lines running in the brim. It often happens that in such sacra we see at a glance that the redundancy is due to a lumbar vertebra, whether an additional one or not is of no consequence, which has become more or less intimately incorporated with the sacrum, and it is clear that the promontory is between the first and second pieces. In other cases it is unmistakable that the top of the sacrum continues to be the promontory. But there are many cases in which the change of direction between the lumbar and sacral regions takes place in part at two joints instead of at one, and here we should be in serious doubt. In such cases we must turn to other guides; one, though not a certain one, is the point of the coccyx which is usually a trifle above the lower border of the symphysis, and again Wood states that "the posterior part of the notch should be the most depending point of cotyloid brim." Meyer gives the following very simple rule for putting a pelvis into an approximatively correct position: Bring the anterior superior spines of the ilia and the spines of the pubes into the same vertical plane. After much study and many observations on this point, I am disposed to look on this as the best rule of its kind, but I am inclined to bring the iliac spines even a little further forward.

To sum up. If the sacrum is normal, make a line from the top of the pubes to the middle of the third sacral vertebra form an angle of 30° with the horizon. If from any peculiarity of the pelvis this should appear unnatural, as by bringing the promontory evidently too far from, or too near

to, the level of the symphysis; modify the inclination as may seem best. Remember that unless the processes are abnormal it is hardly possible to be far wrong, if the anterior spines of the ilia and those of the pubes are on the same vertical plane. But it is hardly credible that the latter should be more than a trifle behind the former.

The pelvis and spine being settled, we have next to find the distance from the ground by putting the legs in place. Beginning with the femur, we must remember that it does not hang simply from the pelvis, but that the shaft is placed obliquely, and that it should touch, or all but touch, its fellow at the knees. The length must of course be measured when they are in proper position. There is also a slight forward inclination of the whole leg if the skeleton be put in the position we have assumed when studying the spine, but I do not think that will modify the height sufficiently to demand consideration. Owing to the position of the head of the femur in the acetabulum, no allowance need be made for the cartilage covering one and lining the other, but it must be remembered that the bare bone is not to reach the upper surface of the cavity.

The tibia is to be placed under the femur and due allowance made for the cartilages of the knee, viz., $\frac{1}{4}$ of an inch.

The bones of the foot, or at least the astragalus and os calcis, being put in place, my observations demand the addition of about $\frac{1}{8}$ of an inch for each joint, *i. e.* that below the tibia and that below the astragalus. There remains the sole of the foot to be accounted for; and of course there is a good deal of difference between that of the delicate lady and of the tramp. Observations are rather deceptive, because on the separate foot, whether studied by section or dissection, there is an absence of the pressure which doubtless acts on the soft parts in the erect position. Indeed if dissected they become so loose as to suggest greater thickness than they really possess. The addition of $\frac{1}{2}$ of an inch is

not far wrong, and we should be justified in somewhat increasing it in some cases and diminishing it in others.

We have now only to put on the head, adding $\frac{1}{8}$ of an inch for the joint between the condyles and atlas, and about $\frac{1}{4}$ of an inch for the scalp.

CHAPTER VII.

PROPORTIONS OF THE BODY.

SOME writers recommend the proportions as the means to estimate the height, and I have already differed from their opinion, believing that by putting the bones together with intelligence and care, and making due additions for the soft parts, much greater accuracy can be obtained. The result, however, should always be verified by comparison with normal proportions, and the latter are also useful in supplying parts that are wanting.

The most important point of all is the position of the top of the symphysis of the pubes, which is not far from the middle of the body. Humphry, in his average of the measurements of twenty-five adult human skeletons, places it at the middle. From the table of Orfila's measurements of twenty skeletons, we deduce that on the average the symphysis was .504 of the height; practically the same. It is to be remembered in both these cases that the figures apply to skeletons, and that as decidedly more is to be added for the soft parts of the legs than for those of the trunk (we assume that the vertebral cartilages were represented), the centre is really below the symphysis. Turning to Quetelet[1]

[1] Anthropometrie.

we find the average height of the male in Belgium 1.689 m. (66.49 inches), and of the female 1.580 m. (62.2 inches). In the former, the height to the pubes was .853 m. (33.58 inches); and in the latter, .783 m. (30.82 inches).

This makes the proportion of the legs to the height in man .505, and in woman .495. Thus, according to him, we should find in man the pubes just above the centre, and in woman just below it; but the difference is utterly trifling. Quetelet unfortunately does not give the number of examinations on which he bases his statements. Sappey gives the height of forty men, which averages 1.692 m. (66.61 inches), the lower extremities being .859 m. (33.81 inches), or .507 of the former. It may be easily reckoned that for this height the centre of the body is 13 m. m. (.51 inches) below the symphysis. He then divided the forty into two groups of the twenty shorter and the twenty taller, and took the average of each group, which we will tabulate as follows:

Sappey's Measurements of Men.

Group.	Average Height.		Height from Ground to Pubes.		Ratio of Latter to Former.
	metres.	inches.	metres.	inches.	
No. 1. (Shorter.)	1.63	64.17	.825	32.47	.506
No. 2. (Taller.)	1.74	68.5	.892	35.11	.512

In the former group the centre is 8 m.m. below the symphysis, and in the latter 2 c.m.

Sappey made the same measurements on thirty women; obtaining an average height of 1.589 m. (62.55 inches), and an average height of pubes of .793 m. (31.22 inches). Thus the symphysis may be said to be the middle point. He then divided the thirty women into two classes as he had done the men, with the following result:

Sappey's Measurements of Women.

Group.	Average Height.		Height of Pubes from Ground.		Ratio of Latter to Former.
	metres.	inches.	metres.	inches.	
No. 1. (Shorter.)	1.54	60.62	.765	30.11	.496
No. 2. (Taller.)	1.63	64.17	.822	32.36	.504

This would show that in the first group the centre was .005 m. above the pubes, and in the latter .007 m. ;—differences too minute for serious consideration, especially when we remember on how few statistics they are founded.

We may sum up by saying that in woman the centre is at the symphysis pubes, though in tall ones no doubt it is below it, and in short ones above it. In average men the centre is a little below the symphysis, and in tall men from 2 c. m. to perhaps 2 inches below it.

Dr. Gould's[1] valuable researches appear to show that there is a good deal of variation in this respect among men. It is greatly to be regretted that except in comparatively few cases he measured from the ground to the perinæum instead of to the pubes. For the perinæum in the skeleton (or, indeed, in the flesh) is not as definite a point as could be desired. He finds, comparing white soldiers with sailors, that though the former are the taller the latter have the longer legs. There may be some special reason for this peculiarity, and I do not doubt that Sappey's conclusion is in the main correct, but it will be well to be very prudent in deciding on individual cases. Quetelet puts the proportion of the height of the pubes to that of the individual at .508 in man and .498 in woman.

[1] Investigations in the Military and Anthropological Statistics of American Soldiers, by B. A. Gould. 1869. Published by the United States Sanitary Commission.

Among Dr. Gould's measurements is one which appears remarkably constant, and which may be of special use if the head be wanting. Unfortunately I have no statistics for women. It is the height of the spine of the seventh cervical vertebra from the ground. This spine is a good landmark, for it is easily felt and is affected but slightly by the position of the head and neck. Dr. Gould found that the mean height of the parts above this point was 9.95 inches, or .148 of the height, and, what is very important, that it varied but very little, and that this variation was not in proportion to that of the stature.

The proportionate height of the part below this point in the newer series of observations of white soldiers (comprising 10,876 men), was .8519; and the earlier series (comprising 7,904 men), .8517. We may call it .852 without appreciable error.

The length of the arms is best reckoned from the point of the acromion to the tip of the middle finger. Before measuring bones, it is of course necessary to put them carefully into position, making due allowance for the cartilage and soft parts. Quetelet gives the proportion to the height at the age of twenty-five as .455 in man and .442 in woman. Dr. Gould makes it .4341, which we must believe more correct than Quetelet's.

In man, according to Quetelet, the length of the foot is little more than one ninth of the body, in woman just one ninth. According to Gould, for men .1498, or nearly one seventh.

Statistics of even the highest authority, and resulting from very large numbers of observations, must be used with caution; especially as we have no right to assume that the body of the missing individual was of absolutely normal proportions. I shall not follow the example of most writers on this subject, by giving the tables of Orfila and Humphry. I cannot believe that the observations they rest on are of sufficient extent to deserve confidence.

CHAPTER VIII.

MISSING PARTS.

SUPPOSING that parts are wanting, we supply them by putting in place either the average proportion of the part, if we know it—if not, the average size of the part. We may take the head as the first instance; figures founded on the relations during life are not sufficiently accurate, and the proportionate height of the head in the skeleton has not been sufficiently worked out. We therefore must content ourselves with adding the height of the head to the skeleton. In Quain's Anatomy it is stated that the average height of the British skull, from the front of the foramen magnum to the vertex, is $5\frac{1}{2}$ inches. Sappey states it at .1336 m. (5.25 inches) for the male, and .125 m. (4.9 inches) for the female. I have measured a considerable number of skulls for this purpose, including, however, the condyles, and (excluding a large number) found twenty-one of which I felt no reasonable doubt that all were Caucasian, and that fifteen were male and six female. The average height of the former is 5.82 inches, and the latter 5.18 inches.

Perhaps $\frac{3}{8}$ of an inch would be the average amount to subtract for the condyles; in a large skull more, and in a small one less. Subtracting it, my male skulls are 5.44 inches, and the female 4.8 inches, making the former rather larger and the latter a little smaller than Sappey's estimate.

For the height without condyles, then, we may say for the male practically $5\frac{1}{2}$ inches, and for the female a trifle under five. This is to be added to the height of the front of the arch of the atlas, and an additional $\frac{1}{4}$ of an inch for the scalp is to be given.

Besides this method we may find the height of the spine of the seventh cervical vertebra, and in the case of a man add to it 9.95 inches, according to Gould's observations. I

cannot undertake to apply this rule to the female. After allowing for the head, we must verify our calculation by ascertaining whether the central point of the body comes where it should. If the skeleton be particularly tall or short, a little more or a little less may be added ; but of course the expert must remember that his conclusions are probabilities and not certainties.

If parts of the spine are wanting, say up to a quarter of it, they may be supplied from the tables given with the discussion of that region ; but if the whole spine be gone, there can be nothing certain, and we can only give general deductions from the length of the limbs.

If the pelvis is gone, we lose a very important part, because its inclination determines the interval in height between the heads of the femora and the lumbar vertebræ. We also lose the position of the symphysis, which is so important in relation to the centre of the body.

The only points we have established are of course those on the legs ; and the most evident is the great trochanter. From Quetelet's observations, with which my own researches agree, the highest point of the great trochanter is about 2 c. m. or $\frac{3}{4}$ of an inch above the level of the pubes. The pubes being placed, there is no great difficulty, by following the rules given in treating of the inclination of the pelvis, such as putting the promontory about $3\frac{3}{4}$ inches above the symphysis, in making it practically correct.

If the entire legs are wanting, we can make no estimate of the height from the trunk alone, because it has been shown that the position of the centre depends chiefly on the length of the legs.

The relative length of the arms, as shown in tables, might be of some assistance, but of so little that I cannot approve of giving any weight to it.

FLOATING SPLEEN.

By FREDERICK C. SHATTUCK, M.D.

OF BOSTON.

READ JUNE 11, 1878.

FLOATING SPLEEN.

A CASE of this condition which came under my care led me to look into the subject, and to think that my results might prove of some interest, especially to physicians of this neighborhood, the great immunity of which from malarial influences renders affections of the spleen comparatively rare.

July 26, 1877, I was called to a young man, a baker by trade. His family history was good, and he had never been laid up before by sickness, as far as he could remember. Was born in Boston, and had always lived here with the exception of two or three years—1873–'75—which he passed near the eastern end of the Hoosac tunnel, a region in which I am informed malaria is not unknown. He had never suffered from chills and fever, had never done any heavy lifting or had any fall or injury of consequence.

July 14, went to bed and to sleep as usual, but was wakened during the night by severe pain in the left hypochondriac region, and then discovered for the first time that he had a tumor in his abdomen. He described the pain as having been very sharp, as having drawn him down on the left side, and as having been aggravated by deep inspiration or by flexing the left thigh on the body. By July 19th the pain left him and he resumed work, but had a fresh access during the night of the 21st, and again during that of the 22d. A physician was then called in, who enjoined close confinement to bed.

I found him in bed without fever or any subjective symptom, but with a prominence of the left side of the abdomen dependent on a smooth, firm, clearly defined, and non-sensitive tumor, extending from half an inch to the left of the umbilicus, and under the lowest ribs toward the lumbar region. Its lower border was on a level with the anterior superior spinous process of the ilium; and the whole tumor could be pushed up several inches toward the region normally occupied by the spleen, but in other directions was only slightly movable. No notch could be felt. Placing the patient on the right side with the left arm over the head, I found marked dulness on percussion over the tumor, and full resonance over the splenic region. No difference could be detected between the lumbar regions of the two sides in the back by palpation or percussion, either when the patient was in the erect posture, or when he was lying on his belly. No enlargement of lymphatic glands, and no apparent anæmia. His bowels had acted freely and regularly of late, and I made the diagnosis of enlarged and floating spleen. Dr. E. G. Cutler, of this city, kindly examined the man at my request, but without knowing my opinion of the case, and arrived at the same diagnosis. At Dr. Cutler's suggestion, Fowler's solution was ordered with the idea of attempting to reduce the size of the organ, but the patient did not follow up the treatment. He has been regularly at work at his trade ever since, without a moment's inconvenience, but still has his tumor, which, however, seems to have contracted some adhesions, as it is now but very slightly movable.

Except for the lack of any sufficient exciting cause, the history of the case would indicate that the dislocation occurred suddenly; and the enlargement may date back to his residence in the western part of the state, although he was not conscious of having absorbed the malarial poison.

The spleen is subject to various displacements; it has, for instance, been found within the left chest in cases of con-

genital defects, and of perforation of the diaphragm; without the abdominal wall in cases of fissure, and of large umbilical herniæ; in cases of transposition of the viscera, it occupies the right side of the body; it may be forced out of its normal position by enlargement or distension of neighboring parts, such as very great effusions into the left pleural or the peritoneal cavities, or by abdominal tumors. Lying as it does immediately beneath the diaphragm, it descends somewhat on forced respiration, and when it is sufficiently enlarged to reach the margin of the ribs, this respiratory change of position is appreciable on palpation. Under the term "floating" or "wandering" spleen, however, I would include those cases, and those only, in which the *whole organ*, whether enlarged or not, has escaped from its normal position, the ligaments which held it in place being elongated or ruptured. However low down into the abdominal cavity, or however far toward the right side an enlarged spleen may extend, it cannot be characterized as "floating" as long as its upper part occupies the normal situation of the organ.

According to Morgagni,[1] the first recorded case of floating spleen is that of Baillou, 1578; and between that time and the present day, after a pretty thorough search of the literature of the subject, I have found 51 cases, more than half of which are so lacking in details that I abandoned the idea of tabulating and analyzing them as I had at first intended doing. Morgagni[1] finds ten cases recorded up to his time, but says he never met with a case himself, and upbraids Van Swieten for not having taken the trouble to give any details as to two cases which he said that he saw. Küchenmeister,[2] who published a monograph on this subject in 1865, gives Piorry the credit for having first made the diagnosis during life, all the previously reported cases having been first observed in the dissecting or post mortem room. Dietl[3] put the

[1] De sedibus, etc., Epist. xxxix.
[2] Die Wandernde Milz, Leipzig, 1865.
[3] Wien. Wochenschrift, 1854.

second case on record in 1854; in January, 1856, Tebault,[1] of Virginia, published two cases, the first which I have found recorded in America, and in the same year Dietl published several others. Since then, cases have been reported from time to time, in most of which the diagnosis was made during life.

Like floating kidney, the affection is much more common in women than in men. Rokitansky,[2] indeed, states in his Pathological Anatomy (edition of 1861), that it occurs exclusively in women, but this is a mistake. Two of the cases published since 1854, in which the sex has been noted, were in males, my own case and that of Buss;[3] and six of the cases reported by the older writers were in males—in all, eight out of fifty-one cases. Bartholow[4] reports a case in a man, but the diagnosis seems to me rather questionable, and I have thrown it out.

The two chief factors in the causation of dislocation of the spleen are undoubtedly mechanical elongation of the ligaments by the traction of an enlarged organ, and undue congenital laxity or delicacy of the ligaments. Dietl[5] and Förster,[6] attribute the condition chiefly to the latter; Klob[7] and Birch-Hirschfeld,[8] chiefly to the former; while Rokitansky[9] lays stress on successive attacks of acute enlargement and consequent successive strains on the ligaments, abnormal length and lax attachment of which act as predisposing causes. I suspect that floating spleens are more common than would appear from the very small number of cases which have been reported, but even if I am correct in this supposition, they still remain very rare in comparison

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[1] Am. Journ. Med. Sciences, Jan. 1856.
[2] Band iii. s. 291.
[3] Times and Gazette, Nov. 7, 1868.
[4] Western Journal of Medicine, March, 1868.
[5] l. c. and Wiener Wochen, 1856, No. 23.
[6] Path. Anat., p. 823.
[7] Wochenblatt der Zeit. der Gesell. der Wein Aerzti, 1869, p. 597.
[8] Path. Anat., i. p. 429.
[9] l. c. and Zeitschrift der Wien., etc., 1860, p. 33.

with the wide distribution of the malarial poison in even highly civilized countries, and the frequency of chronic splenic enlargement, of malarial or other origin. Consider, too, the enormous size and weight which the spleen often attains without any other change of position than is necessarily involved in the enlargement, and it certainly does not seem far-fetched to assume that congenital structural peculiarity of the ligaments may often have something to do with the production of dislocation.

The far greater frequency of the condition in females naturally suggests inquiring as to the possible influence of pregnancy. Rokitansky suggests that the relaxation of the abdominal walls, after repeated pregnancies, may favor its occurrence. Of fifteen cases analyzed by Küchenmeister with reference to this point, two were in girls under 14 years of age; in five, no mention is made of previous pregnancies; three were in multiparæ; and in five the dislocation was said to have occurred either during or following pregnancy. Ullmann[1] reports a case in which the dislocation occurred suddenly while the woman was running, Pirotais[2] one in which it seemed directly attributable to the woman's being thrown from a carriage, Kilpatrick[3] one in which it seems to have been the result of the effort of getting into a light wagon, and then there are the cases in males, which show that the rôle of pregnancy is no very important one. Cruveilhier very properly calls attention to the great frequency of perisplenitis, and suggests that this is a protection against dislocation.

The most striking feature in the pathological anatomy of the condition is the change in the ligaments. The organ normally lies with its concave surface and hilus directed toward the right, is attached to the diaphragm by the

[1] Arch. Gén. V., série xii. p. 221.
[2] Gaz. des Hopitaux, 1874, 84.
[3] Boston Med. & Surg. Journ., 1873, ii. p. 438.

phrenico-splenic or suspensory ligament, and to the fundus of the stomach by a fold of omentum—the gastro-splenic ligament—which encloses the splenic vessels as they pass in and out behind the upper border of the pancreas. The organ is least movable at its diaphragmatic attachment, and it is this phrenico-splenic ligament which, according to Klob, is the first to feel the traction, become elongated and ruptured; the spleen then falls over forward, lies horizontally in the body with the hilus directed upwards, and depends only from the gastro-splenic attachment and vessels; thus drawing the fundus of the stomach downward by traction on the ligament, and perhaps detaching the pancreas by traction on the vessels. Rotation may then take place, and the pancreas be wound round the vessels which become more or less diminished in calibre, or even obliterated, causing infarction and atrophy of the spleen itself, and thus contributing toward a spontaneous cure. In one of the three cases collected by Rokitansky from the records of the Pathological Institute in Vienna between 1820 and 1851, the vessels were twisted three times, and the spleen, which was still somewhat enlarged, was distorted in shape, and presented two spots of marked depression on its outer surface, with deposits of lime salts. In another of his cases, rotation of the organ had obliterated the artery and vein; and the spleen was reduced to the size of a goose-egg, and consisted of a cartilaginous capsule, with scattered deposits of bone, within which was a mere mass of detritus traversed by a few fibrous bands. Unless strong adhesions are contracted on the way, the spleen must continue to descend until it reaches the firm support of the pelvis. Rupture of the gastro-splenic ligament is a fortunate thing for the patient, the traction on the fundus of the stomach having been known to result in gangrene of the gastric wall and death.

After rupture of the ligaments, and obliteration of the vessels by rotation, it is easily conceivable that the remains of

the vessels also should rupture and the organ float freely in the abdominal cavity, or become almost entirely absorbed. Of the latter, I have found no instance; but Cabrolius is said, by Lieutaud,[1] to have found the spleen lying completely unattached in the abdomen of a man. I have been unable to find the original work of Cabrolius in which he makes this statement, either here or in the Library of the Surgeon General's Office, but give it for what it is worth. I have found reports of no less than four cases, and a mention of one other,[2] in which a floating spleen caused fatal obstruction of the bowels. In the case of Babesieu[3] a portion of the jejunum was compressed against the spinal column by the elongated gastro-splenic ligament and vessels; in the case of Helm and Klob[4] the lower part of the duodenum was compressed in the same way, though the cause of death was rupture of the stomach; in the case of Bozzi[5] the ilium and cæcum were the seat of compression, and in that of Coomans and de Cnæp[6] it was the ileum alone; in the case of Choisy,[7] the particulars are not given. Bainbrigge[8] reported a case which does not strictly come within the limits of this paper, but is so curious and unique that I will mention it briefly. A groom was admitted into hospital for fracture of the thigh; a few days after entrance he began to present symptoms of intestinal obstruction, and died within a week. On autopsy the cause of the obstruction was found to be a supernumerary spleen which lay in the omentum, had fallen down into the true pelvis, and thus compressed the colon against the brim. The usual seat of a floating spleen is one of the iliac fossæ, more commonly the right; and

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[1] Voigtel—Path. Anat., Bd. iii. p. 142.
[2] Case of P. Frank.
[3] Allg. Wien. Med. Zeit., Sept. 1877.
[4] l. c.
[5] Am. Jour. Med. Sciences, July, 1847.
[6] Canstatt, 1869.
[7] Bulletin Soc. Anatomique, 8, p. 79.
[8] London Med. Gaz., 1846, p. 1052.

there, or elsewhere, it may contract more or less firm adhesions to neighboring parts or organs.

Symptoms may be very marked, vague, or entirely absent. In the cases in which the dislocation has occurred suddenly, there has been severe pain in the abdomen, with inability to stand upright; where, on the contrary, it has been gradual, inconvenience may be wanting or very slight; dragging sensations may be felt in the abdomen, or pressure on the bladder and uterus may interfere with their functions. In one of Kilpatrick's cases three abortions followed the appearance of the floating spleen, though the woman had previously borne three children at full term. In one of Tebault's cases the spleen was carried up by the uterus during a subsequent pregnancy into the left hypochondriac region, without giving rise to inconvenience.

The diagnosis of floating spleen should seldom be attended with special difficulty, and is in many cases very easy; complete absence of the normal splenic dulness being of course practically a *sine quâ non*. A case may be imagined with persistent dulness in the splenic region, for instance, local enlargement of the left lobe of the liver, due to the presence of a hydatid cyst, as is suggested by Küchenmeister, but centuries may elapse before any such difficulty has to be met in practice. Even if the splenic dulness be absent, the abdominal tumor should not be decided to be a floating spleen, without excluding floating kidney of the left side, extra-uterine fœtation, ovarian disease, fæcal accumulation, and enlarged but not floating spleen; aneurism and cancer should also be added to the list.

As for prognosis, danger to life is threatened only from intestinal obstruction, and from dilatation and rupture of of the stomach; which, together, have caused death in seven out of fifty-one cases.

The line of treatment to be adopted in any particular case varies mainly with the recency of the dislocation, and

the degree of inconvenience to which it subjects the patient. I will consider the question of treatment from four points of view: according as it may seem desirable to do nothing; to attempt permanent reduction of the dislocation; to aim at alleviation or possible cure by reducing the size; or, lastly, to excise the organ.

The let-alone policy is that which has hitherto been followed in most cases, possibly partly from the impression—in which I shared until I had gone into the question—that the lesion is one of little or no gravity, but mainly from the difficulty of being sure of doing less harm than good. In view, however, of the fact that the lesion involves possibilities of the greatest danger, I should in another case make more of a point of attempting cautiously to diminish the size of the organ, if enlarged, and to retain it in place as far as possible.

Piorry was the first to attempt to keep a dislocated spleen in place by means of a bandage, but with what success I have been unable to ascertain. In Pirotais' case the woman was unable to rise from her bed until a bandage was applied; from this she obtained great and prompt relief, but whether the organ was kept permanently in place is not stated. In the case of sudden dislocation mentioned by Kilpatrick, the woman was put to bed, the foot of the bed raised, the spleen pushed back into place and retained there by bandages. After several days the bandages were removed and the patient felt no subsequent inconvenience. We are left to infer that the reduction was permanent, but that fact is not directly stated. It is only in acute cases like these that there is much hope of effecting permanent reduction, and the question naturally arises as to its mechanism in case it is effected. If the ligaments be ruptured or materially elongated, the possibility of their repair or restoration to the normal length would seem in the highest degree remote; and it appears to me more rational to seek for the cause in

the occurrence of adhesive perisplenitis, which might perhaps be further promoted by cauterization over the organ. Whether a bandage or appliance can be contrived which will keep the organ in place and admit of being worn for a prolonged period, without at the same time exercising injurious pressure on other parts, remains to be seen.

Enlargement plays so important a part in the production and intensification of dislocation, as to justify us in attempting to reduce the size of the organ. From the earliest times the spleen, especially when enlarged, has been regarded as an impediment to running. Democritus, Erisistratus, and Rufus of Ephesus, all regarded it as an useless appendage, nay, as positively injurious.[1] Plinius Secundus says, "This member hath a property by itself sometimes, to hinder a man's running: whereupon professed runners in the race that be troubled with the splene have a desire to burn and waste it with a hot iron. And no marvel, for why? they say that the splene may be taken out of the bodie by way of incision and yet the creature live neverthelesse: but if it be man or woman that be thus cut for the splene hee or shee loseth their laughing by the means. For sure it is that intemperate laughers have alwaies great splenes."[2] He also gives minute directions for preparing and taking a decoction of a plant called horsetail, and states that a three days' treatment suffices to "waste the splene of footmen and lackies."[3] Celsus[4] recommends highly drinking after meat the water in which a smith has often extinguished hot iron, "a remedy which very powerfully contracts the spleen." Its use was suggested by the observation that animals bred in the houses of smiths have very small spleens.

Various methods of cauterizing the splenic region, with the idea of diminishing the size of the organ, are described

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[1] Burette.
[2] Hist. Nat., Lib. xi. 37–80, old translation.
[3] Lib. xxvi. 13, 83.
[4] De Medicina, Lib. iv. Cap. ix.

by the ancients. In the time of Hippocrates, the hot iron was thus used, as also a kind of dried mushroom, eight or ten of which were placed over the spleen and set afire. Paulus Æginetа[1] teaches a method of cauterizing in six places at once, with a three-toothed cautery. In the middle ages, also, we find cauterization practised on running footmen. Maebius,[2] who died in 1664, saw a runner of Count Tilly with a deep cicatrix in his splenic region, who attributed his great speed and endurance to an operation done on him by the physician of the Count. The doctor put him to sleep by a potion, made an incision over the spleen and applied the hot iron. The runner also stated that the same operation had been done on five others, but one of whom had died in consequence. Whether the cauterization was ever applied to the spleen itself must remain undecided, for the present at all events; but it does not seem likely that it was. The practice is spoken of almost exclusively in connection with athletes and running footmen, presumably a very healthy class of men, and was rather a matter of training than of medical treatment.

To hasten to modern times: if the enlargement is of somewhat recent standing and due to malaria, quinine and change of climate may be servicable. Cutler[3] and Bradford have known the enormous spleen of a leucocythæmic patient to undergo marked decrease in size under the prolonged administration of increasing doses of Fowler's solution. Some hopes of good results would seem to be held out by parenchymatous injections of ergotin or other substances, or by electro-puncture, but further facts are needed to establish the real value of these procedures. Küchenmeister suggests that when the absence of adhesions permits, taking a hint from nature, artificial rotation may be attempted.

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[1] Sydenham Soc. Trans., Book vi., c. 48.
[2] Burette.
[3] Am. Jour. Med. Sciences, Jan. 1878.

The same writer also urges strongly excision of the floating spleen, if it be a serious inconvenience to the patient and other therapeutic measures have failed. Simon, Magdelain, and others, have written monographs on this operation. Simmons[1] briefly mentions fourteen other cases in connection with a case of his own; and a valuable collection of cases is tabulated in the Medical and Surgical History of the War. Martin's[2] recent case of successful excision of a floating spleen antiseptically, and some facts as to extirpation of the spleens of runners in ancient and modern times, facts which no modern writer on splenotomy has mentioned, as far as I know, are my excuse for going into this question in some detail.

Several writers of antiquity state that the spleen was sometimes actually excised from runners to give them greater speed; and Burette,[3] whose careful study of the whole subject cannot be too highly commended, says, that though he can find no special instance of the operation, he believes that it was done in rare cases. There is a popular idea that splenotomy was practised on the running footmen of the middle ages, and Cabrolius[4] states positively that it was done; but in Zedler's[5] remarkable encyclopædia published early in the eighteenth century, it is, on the other hand, stated expressly that it was *not* done. Cabrolius wrote early in the seventeenth century, and was a medical man; whether the writer of the article in Zedler, from which I have quoted, was a medical man or not I cannot say, but credulity and the unscientific mind belong to humanity, and are confined to no one profession or calling. Bartholomus says that the Turks, if their old chroniclers are to be believed,

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[1] Pacific Med. & Surg. Journal, Dec. 1877.
[2] Brit. Med. Jour., Feb. 9, 1878.
[3] Mémoire sur la course des Anciens—Acad. Roy. des Inscriptions et Belles Lettres, 1713.
[4] Ontleeding des Menschlycken Lichnams.
[5] Universal Lexikon, Article Læuffer.

had a special and secret means of removing the spleen of runners; from lay sources we hear of splenotomy being practised on the Indian runners of Texas,[1] and on the syces of Hindostan.[2] Now, though no one of these indications alone is worth much, when taken all together I think that some value must be attached to them, especially when we bear in mind the well-known impunity with which splenotomy is done on animals, and the uniformly favorable results which have followed the removal of larger or smaller portions of the organ in the human subject in cases of prolapse through a wound or injury of the left side. Sixteen of these cases—and the list is not claimed to be complete—are tabulated by Otis,[3] in every one of which perfect recovery took place. So much for removal of the *healthy* spleen. A floating spleen is almost always, however, an enlarged spleen, and an enlarged spleen again is almost always an indication of a cachectic state of the system, which would probably tend to diminish the chances of recovery from any serious operation. What do the statistics of splenotomy for disease teach us? To the fifteen cases collected by Simmons I will add five,[4] making twenty in all. Six of these were successful, fourteen fatal; a mortality of 70 per cent.

Urbinato's case I have, unfortunately, not been able to consult in the original: as reported in the British Medical Journal it is said that the spleen was enlarged and floating, but the symptoms are not given nor is it stated definitely why the operation was undertaken. I must hence, provisionally, give Martin the credit of having been the first to remove the spleen simply for dislocation. His patient

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[1] Beddoe—Times and Gazette, 2,'67, p. 608.

[2] I am informed by old residents of India, that they have often heard of cutting out the spleen of these runners to spare them the stitch in the side.

[3] Med. and Surg. History of the War.

[4] For the cases of Ferrerius and Dorsey, *vide* Med. and Surg. Hist. of the War. For the case of Urbinato, *vide* Brit. Med. Jour., Oct. 4, 1873. For Martin's, *vide* same Journal, l. c. For the case of Fuchs, *vide* Rager Vierteljahrschrift, 1878, Band ii. page 46.

suffered such inconvenience that she cheerfully accepted the risks, and the organ, which was but slightly larger and heavier than usual, was removed. She made a good and rapid recovery, and four months after the operation was perfectly well and free from discomfort.

Splenotomy is not an operation to be done lightly, but I think that I have shown some reasons for hoping that better results may be looked for in the future. Malassez and others have given us the means of obtaining a more accurate knowledge of the condition of the blood than lay within our power until very recently, thus enabling us to pick our cases more carefully; and the antiseptic method promises to rank as second only to the discovery of anæsthesia in enlarging the domain of surgery.

ABSENCE OF RESONANCE IN THE FIFTH RIGHT INTERCOSTAL SPACE,

DIAGNOSTIC OF

PERICARDIAL EFFUSION.

By T. M. ROTCH, M.D.
OF BOSTON.

READ JUNE 11, 1878.

ABSENCE OF RESONANCE IN THE FIFTH RIGHT INTERCOSTAL SPACE,

DIAGNOSTIC OF

PERICARDIAL EFFUSION.

My attention was first directed to the investigation of the commonly received views concerning the area of dulness in pericardial effusion, by the numerous cases of effusion into the pericardium found at post-mortem examinations, where such effusion had not been diagnosticated during life, although the patients had been in the hands of most competent clinical diagnosticians.

On inquiry, I learned from very careful investigators, that the rules laid down by authorities on this subject were often totally inadequate for purposes of diagnosis, and the opinion of these physicians is well represented, when expressed in the words of Professor Calvin Ellis, who, when questioned regarding the subject, said that "he thought the rules laid down by authors for determining pericardial effusion by the pyramidal form of the area of flatness, misleading and insufficient." Dr. Henry I. Bowditch also concurs in this opinion.

Influenced by the experience of these eminent physicians, I began, about nine months ago, a series of experiments to determine, if possible, the actual shape which the effusion, when present, *does* take, and the results of these experiments will be given in this paper.

What, then, are the views held upon this subject by the numerous authorities, who have written about it since Galen, Forestus and Rondelet first spoke of pericardial effusion?

Albertini, and in like manner Morgagni mention the difficulties presented in the diagnosis, while Auenbrügger first gave the symptom of præcordial percussion dulness, Laennec at the same time doubting the possibility of diagnosticating pericardial effusion with any certainty, and this author did not recognize the disease by percussion, Louis being the first French author who speaks of it, while præcordial dulness, as a symptom, is first elaborately described by Skoda and Kolletschka.

We will not here consider the various complications of the disease which may arise and render its diagnosis of greater difficulty; these I expect to speak of in a future paper, considering at present merely the diagnosis by percussion of a simple serous or sero-fibrinous effusion into the pericardium, with the heart healthy or diseased as a complication, but the lungs and pleura normal, no adhesions, and in fact nothing else abnormal in the thorax or abdomen.

Reviewing the ideas of representative authors on this subject, first, Skoda writes, "It is necessary to have a large amount of fluid to cause an increase of dulness. The dulness depends on the amount of retraction of the lung.

"As the heart is heavier, that is, has a greater specific gravity than any exuded fluid, it lies as deeply as possible, the fluid standing as high as possible; this is when the fluid is in small amount, and is always the case excepting when the pericardium is relaxed, or when adhesions are present in the upper part of the pericardium; thus at first when the amount of fluid is comparatively small, the increase of the dulness is vertical, that is, in the long diameter of the heart, while increase in breadth only takes place after the amount of fluid has increased still further, and when it reaches 1,000 cubic centimetres, as a rule the percussion dulness extends from the second left costal cartilage to the lower edge of the thorax, and in breadth from the right edge of the middle piece of the sternum to the left axillary line."

Stoffela, reporting Oppolzer's lectures, says: "The symptoms of pericardial effusion are in some cases very evident, while in others they are so unpronounced as to cause the greatest difficulty in the diagnosis. Percussion shows that the exudation begins at the base of the heart, where the great vessels join the heart, and hence as the pericardium at this point is most relaxed, so the fluid collects here first and is first found here by percussion, thus increasing the long diameter of the heart, reaching as high as the third or second rib, in the left parasternal line; then, on the fluid increasing, we find the dulness increased in breadth, that is, extending from the right edge of the sternum across to the left mammary line; this area of dulness has the form of an inverted triangle, its base being upwards and its squared apex downwards; then, on further increase of the effusion, the dulness can extend up to the first rib, and the figure becomes less and less like a triangle, but, as it increases, the fluid fills up the lower part of the pericardium, and we now have a triangle, with the base downwards and its truncated apex above."

Prof. Bauer says, "that the effusion first collects at the base of the heart, pushing that organ downwards before it; that the dulness has in a majority of cases a certain form, namely, that of a truncated cone with the base downwards," and he disagrees with Duchek, who holds "that the form of the area of dulness is determined by the lungs retracting," while Bauer contends "that it is the shape of the pericardium itself which governs this form." Bauer also says, "that in large exudations the triangle reaches to the second or third rib on the left of the sternum, that at times the whole sternum may be dull, that the left side of the triangle may extend beyond the left nipple to the axillary line, and that this may also occur on the right side; usually, however, the dulness extends very little to the right of the sternum, and the effusion must have reached 100 cubic centimetres in quantity before a diagnosis can be made."

Paul Niemeyer states, that the exudation is first perceptible by percussion, when it has reached 250 cubic centimetres, and both he and Kunze agree with Oppolzer as to the form of the area of percussion dulness, while Guttmann, Felix Niemeyer, Gerhardt, Jaccoud and Gee appear to agree with the views of Skoda on this point.

Sibson, writing in Reynolds's "System of Medicine," says, "the fluid collects in the lower part of the percardium, pushing the heart up, so that the apex is above and beyond the nipple, and when the effusion is large it assumes a pyramidal or pear shape." He also considers, as does Gee, that it is the vertical increase of dulness which is characteristic of pericardial effusion, as affording the means of diagnosis from an enlarged heart.

Da Costa states that the shape is "pyramidal," with the base downwards; while Flint speaks of the area of dulness as "pyriform," with the apex at the sternal notch, and the base at the 6th or 7th cartilages, the left boundary extending as far as the left nipple, and the right over the right edge of the sternum.

The rules for making the diagnosis of pericardial effusion, then, being exactly laid down by these authors, have they, or have they not, proved adequate, practically, for such diagnosis? The following instances will, it seems to me, tend to show that they have not.

First, I would cite the case reported to me by Professor Ellis, where the diagnosis of pericardial effusion was made by one of the best trained of his advanced students, strictly according to rule, and so logically drawn up that Professor Ellis could not gainsay the diagnosis, so long as he admitted the triangular form of flatness to be characteristic of pericardial effusion; and yet there was no doubt, judging by other prominent symptoms, that the area of increased præcordial flatness was caused by an enlarged heart.

Next, by permission of Dr. T. B. Curtis, I will read an extract from his letter to me on this subject, giving his reasons for doubting the correctness of the established rules for diagnosticating effusion. Dr. Curtis says: "When I was serving as interne in 1870 at the 'Hôpital des Enfants Malades,' under Dr. Henri Roger, there was in one of his beds a little girl about five years old, who presented all the signs of an abundant chronic effusion into the pericardial cavity. We had her several weeks under observation, and she was an object of particular interest to Dr. Roger, for the reason that he had already previously practised puncture of the pericardium in a well known case (published in the 'Union Medicale,' December, 1868), and was extremely desirous of an opportunity to repeat the procedure.

"In this case indications of the operation seemed to present themselves again, at times in the most urgent manner. Repeatedly I saw Dr. Roger mark out the area of dulness in his usual minutely careful way, and select the exact spot where he would insert the trocar. Before deciding to operate, he consulted Dr. Labric, who was also attached to the Children's Hospital, and for whose judgment he had the highest regard. The latter, however, persistently advised against the proposed puncture, and in deference to his opinion the operation was postponed, until finally the child succumbed, without the operation having been performed. At the autopsy we found no effusion, but an enormously dilated heart.

"So closely, then, in this case were the signs of a copious pericardial effusion simulated by dilatation of the heart, as to deceive one so skilful as Dr. Roger, fortified by an experience of nineteen years as physician to the Children's Hospital, a virtuoso in the art of physical examination, the author together with Dr. Barth of a well known treatise on auscultation and percussion, and also author of a treatise on the semeiology of childhood."

Allowing that the heart has been tapped by mistake, by Baizeau and Roger, and blood withdrawn from the right ventricle without apparent harm to the patient, yet this accident is not by any means devoid of danger; and to show the great risk incurred in tapping the heart to the left of the sternum, with only our present knowledge of the signs of effusion, I will present one more instance of unsuccessful diagnosis. In the "Gazette des Hôpitaux," No. 39, there is reported the case of a soldier in the Military Hospital of "Groscaillon," who exhibited symptoms of pericardial effusion and disease of the aortic valves following from attacks of acute articular rheumatism. The dyspnœa led the surgeons to introduce a No. 1 Potain needle in the third left intercostal space, to the depth of four centimetres. No fluid appeared, and on leaving the needle free it oscillated synchronously with the beat of the heart, which had been punctured; the patient uttered a sharp cry, took one deep inspiration, and was dead. The pericardium was found to be much thickened and adherent to the heart at various points. The needle had passed over one of these points and wounded the central organ.

The experiments which I am about to present to you were performed in the Physiological Laboratory of Professor H. P. Bowditch, and were all submitted to his inspection. I am greatly indebted for very valuable suggestions from Professor Bowditch, from his assistant Dr. Garland, and from Dr. James J. Putnam.

My first experiments were made upon dogs, but were failures, as to any notable results, for the following reasons: 1st, that the dog's pericardium has not the same shape as the human pericardium; 2d, that it hangs more vertically in the thorax; and 3d, that owing to the pleura meeting directly in the median line of the sternum, and to the existence of an extra pleural cavity under the heart (first spoken of by Dr. Garland), it is impossible to enter the pericardium

without opening the pleural cavity and causing collapse of the lung, an accident which materially alters the shape which the fluid may assume.

It was therefore thought best to use the cadaver only; for here we can introduce fluid into the pericardium without destroying the relations between the lungs and the heart which exist during life; it was also found by dissection that the anatomy of the infant's thoracic organs corresponds so very nearly to that of the adult's, that the introduction of fluid into the infant's pericardium was followed by the same relative results as that into the adult's.

My results are based upon the injections of sixteen infants and four adults. The fluid used was melted cocoa butter, which has a specific gravity of 0.90. It will be well to state here that I use the term flatness to express entire absence of resonance, or what is understood by some German authors as "absolute dulness." By relative dulness I mean diminished resonance. Thus when I speak of the *flatness* of the heart or effusion, I mean that no lung tissue whatever is between the pleximeter and such heart or effusion; while, where there is more or less lung tissue, I use the term *relative dulness*. Now as opinions are much more apt to differ as to relative dulness than as to flatness, it is the *area of flatness* which I shall mark out as characteristic of effusion, and I would also add, that in order to mark out the boundary of the area of flatness correctly, we must percuss very lightly from a point of established flatness, such as the fifth left costal cartilage, to the right and left and upwards, until we come to the encircling resonant border of the lung.

It is needless to mention the various methods of entering the pericardium which were employed before satisfactory results could be obtained; it is sufficient to state, that although by sawing the sternum in the median line the pericardium can be entered without perforating the pleural

cavity, yet that by this method the results of percussion are rendered void by air not only entering the anterior mediastinum, but also getting into the pericardium itself.

The method which was finally adopted was as follows: The subject was placed in the position of orthopnœa, that is, the trunk was bent upon the lower limbs, at an angle of about 120 degrees. Tracheotomy was performed and a clamped rubber tube attached to the glass tracheal tube. The lungs were then inflated, until the area of heart flatness corresponded to that marked out in Diagram I., which is copied directly from Luschka's plate, and is, as is stated by Luschka, intended to represent the parts in expiration.

After inflation, the tracheal tube was clamped, so as to keep the parts in position, and an incision was made in the median line of the abdomen, up to within two centimetres of the ensiform cartilage; the liver and stomach were next gently drawn aside, and on palpation of the central tendon of the diaphragm, four centimetres below the upper edge of the diaphragm and about two centimetres to the left of the median line, the heart was felt. This part of the diaphragm was then carefully drawn down away from the heart, in order that that organ should not be punctured, and a dagger-pointed trocar, previously filled with melted cocoa butter so as to displace the air, was plunged through the diaphragm into the pericardial sac; at the same time an assistant unclamped the tracheal tube, in order that the lungs might be free to retract before the fluid.

When sufficient fluid had entered the pericardium the cocoa butter tube was clamped, as was also the tracheal tube. The thorax was then carefully percussed and the line of flatness marked in ink. After twenty-four hours the sternum was removed from above downwards, remaining attached below, and we had before us the lungs in position surrounding the hardened fluid, and by replacing the sternum and comparing the line previously marked in ink, by means of

needles, with the line of the lung around the effusion, we arrived at very accurate results regarding the shape of the area of flatness.

The fact that on opening the abdomen the diaphragm remains arched, and that the lung by means of the tracheal clamp retains its position and does not collapse, warrants us in assuming that we can fairly judge of the position of the fluid during life by this method of investigation, especially as the contractility and distensibility of the lung appear to be perfectly retained after death, excepting in very cold weather, when it was found necessary to warm the cadaver.

The apparatus for the cocoa butter is a simple wash bottle, graded for cubic centimetres.

We must now shortly consider the anatomy of the normal pericardium and its relation to the heart and lungs. This, so far as the adult is concerned, I have taken mostly from Ferber, Luschka, Sibson and Shrœtter; while in regard to the infant, I have made my own dissections, comparing the thoracic organs with those of the adult, and finding, as I have above stated, the relation of the parts so nearly approximating each other in the two, that the rules which govern an effusion in one answer for the other.

According to Shrœtter and Luschka, in the normal condition of the thoracic organs, on expiration, we have the flatness of the heart beginning at the junction of the upper border of the fourth left costal cartilage, extending outwards and downwards to the left in rather a curved line, with the convexity outwards, and keeping from two to three centimetres within the nipple, until it joins the flatness of the left lobe of the liver; from the same starting point at the fourth cartilage, it extends down the left parasternal line, or perhaps a little within that line towards the middle of the sternum, until it reaches the liver, as seen in Diagram I. This figure is at times triangular, especially on deep expiration. We there-

fore may have a triangular area of flatness over the normal heart, though it is usually quadrangular. Next, supposing that the lungs are removed, we then have exposed to view the pericardium as seen in Diagram II., represented by the area A, and copied directly from Ferber's "Situs Phantom." The base of the pericardium is attached to the central tendon of the diaphragm, extends upwards enveloping the heart, and is attached to the great vessels of the heart between the first and second ribs, spreading out on either side of the sternum in pyriform shape, most markedly on the left side of the sternum, but keeping within the mammary line.

The lower border of the upper lobe of the right lung approaches the right edge of the sternum at about the level of the fourth rib; on the left side, the upper lobe passes around the heart down nearly to the sixth rib; the middle lobe of the right lung, in the region between the right mammary line and the sternum, extends from the fourth to the sixth rib, where the line of the liver flatness begins. This amount of anatomy is sufficient for our purpose at present.

First, we will consider what takes place when we introduce a small amount of fluid into the pericardium, picking out from my notes a case which may be regarded as typical. Jan. 7, 1878, injected by the usual method, through the diaphragm, a small amount of fluid into the pericardium of an infant of from one to two weeks old. Percussion gave an increase of præcordial flatness, as follows: beginning at the sixth rib, about two centimetres to the right of the sternum, it passed upwards in a curved line with the convexity outwards to the fourth right costal cartilage at its lower edge, then across the sternum to the upper border of the fourth left costal cartilage and outwards and downwards to and to the outside of the nipple, passing down to the sixth or seventh rib, as is seen in Diagram III. There was no vertical increase of flatness. This line of flatness then was a semicircle, with its convexity upwards, and with the

radius of that part of the curve which was to the right of the sternum shorter than that which was to the left. What was this flatness caused by? On clamping the trachea and removing the sternum, the area of flatness, marked out in ink, was found to correspond to that part of the pericardium which was uncovered by the lungs: it was found that the lower lobes had retracted before the fluid, and that the fluid had taken the shape which is represented in Diagram III., the normal physiological flatness of the heart forming the upper part of the area of flatness, and the effusion the lower part. The lungs were then drawn aside and the pericardium, with its contained effusion, was seen to present the form which is shown in Diagram IV., the effusion apparently being drawn up at the sides, where it was thickest, leaving a thin layer below, so that the broadest part of the effusion about corresponded to the top of the curved line. The same result, as to the area of flatness, was obtained whenever a small amount of fluid was introduced, whether in the infant or adult, the increase always being in a line with the lower part of the sternum, and never vertically.

Perhaps it will be well to here describe shortly the case where I was enabled to determine the first signs of effusion in an adult, by the introduction of from 70 to 80 cubic centimetres of fluid, which is from 20 to 30 cubic centimetres less than the smallest amount laid down by authors as being possible to make a diagnosis by.

April 22, 1878,—subject, a female of medium size, who had died of cancer of the rectum: percussion of lungs and heart normal; resonance in fifth right intercostal space well marked. Dr. Maurice Richardson managed the cocoa butter apparatus for me, keeping his eyes on the graduated scale and his hand on the clamp; the trocar was introduced, and I proceeded to percuss lightly the fifth right interspace about $1\frac{1}{2}$ to 2 centimetres from the edge of the sternum, until decided flatness was found and verified by Dr. Richardson,

who then immediately applied the clamp, when we found by our scale that when the flatness first appeared 70 to 80 cubic centimetres of fluid had been introduced. We then found that no vertical increase of flatness had taken place, and that the curved line bounding the area of flatness corresponded to that in Diagram III., the percussion flatness extending in the fifth interspace to about 4 centimetres from the edge of the sternum.

Next we will consider the large effusion, where the pericardium is pretty well filled from top to bottom.

May 10, 1878, with the assistance of Professor Bowditch, injected the pericardium of an infant about two weeks old, until percussion showed that the præcordial flatness had extended to the nipple on the right, and beyond the nipple to the left, in an area corresponding to the front of the thorax as high as the fourth ribs, when it approached the sternum to within about $1\frac{1}{2}$ centimetres, and then passed upwards to the sternal notch.

The distended pericardium, with the lungs removed, is represented in Diagram II. by the area A and D.

Diagram V. represents the picture, disclosed to our view, on clamping the trachea and removing the sternum, in the case where the pericardium was spoken of as filled, and is drawn directly from the cadaver. The exact amount which must be injected before an increase of vertical flatness is obtained, I have not yet determined. It may be objected, that the fluid was introduced at the bottom of the pericardium, while naturally it should start at the base of the heart. In my earlier experiments I *did* introduce the fluid where the pericardium is reflected over the great vessels, but even when it was in very small amount and quite insufficient to cause any increase of percussion flatness, it immediately ran down the side of the heart to the bottom of the pericardium, so that I cannot conceive of its collecting to any appreciable amount at the base of the heart and being retained there.

Even if it was retained there, it would not by its form represent an inverted triangle, as I have proved by inverting the cadaver and filling the upper part of the pericardium, when the resulting cast always had its broadest part directed towards the diaphragm. Nevertheless, as the convictions of some of the greatest clinical observers on this point are very decided, we must, in deference to their opinion, wait until more extended clinical facts are brought to bear on the subject, before eliminating flatness at the base of the heart as diagnostic of the early stage of effusion in pericarditis.

As to the change of the position of the heart's apex spoken of by Flint and Reynolds, namely, that the apex is pushed upwards and outwards by a moderate effusion, so that the impulse appears in the fourth left intercostal space, I did not in my experiments find that this was the case, the apex being found by measurement to remain in its normal position; and in fact it seems highly improbable that a fluid, which according to Skoda always has a smaller specific gravity than the heart, should push that organ upward, a proceeding which would be quite contrary to the physical laws which govern the relation between a solid body and a liquid, when such body is suspended in the liquid and has a greater specific gravity than the liquid. By referring to Diagram III.—of the small effusion—it seems more plausible to account for the pulsation in the fourth interspace, by the tumultuous action of the side of the heart, which, as is seen in Diagram III., can approach the thoracic wall at this point, especially as it has been observed by Professors Ludwig and Bowditch that the impulse of the heart, as seen normally in the fifth left intercostal space, need not necessarily be caused by the heart's apex, but by a portion of the heart above the apex striking against the thoracic wall.

The whole question, however, depends on the correctness of Skoda's observation, that the heart must always sink in

a pericardial effusion as far as its attachments will allow, and this can only be determined by carefully taking the specific gravity of pericardial effusions of different densities and comparing them with the specific gravities of the fluids in which the suspended heart will float or sink. Skoda, however, is also incorrect in supposing that the small amount of fluid stands as high as possible in the pericardium, thus causing an increased vertical flatness, for in reality the lower part of the pericardium envelopes the lower part of the heart so loosely that the small effusion has plenty of room to collect in the lower part of the pericardium first, making an increased distension in breadth, and, as we have seen, appearing in the fifth interspace.

Before proceeding to discuss the general conclusions which we are warranted in assuming in regard to the diagnosis of pericardial effusion, we must consider what changes in the præcordial area of flatness may be due to changes in the heart itself.

For this purpose, it is not necessary for us to consider particularly whether the left or right side of the heart is hypertrophied or dilated: the question of interest to us, in this connection, is the result of all these conditions, that is, simply what possible part of the præcordia may be rendered flat on percussion by an enlarged heart; for I hold that we cannot as yet distinguish with sufficient certainty between the absence of resonance obtained on percussing over a fluid, from that obtained on percussing over a solid organ, such as the heart or liver, to warrant us in giving an opinion as to which is fluid and which is solid, and that therefore it is of the utmost importance to determine where the heart, if enlarged, might cause flatness, for this area must be taken into consideration, and subtracted from the whole area of flatness, before we are are justified in introducing a trocar expecting to find fluid.

In determining the possible area of percussion flatness caused by enlargement of the heart, I have consulted Bamberger, Oppolzer, Gerhardt, Shroetter, Paul and Felix Niemeyer, and finally Professor Adolf Weil, of Heidelberg, who has published some excellent plates on this subject. These authors all concur as to the extension of the flatness to the left of the left nipple, just as we have seen the effusion to extend. Oppolzer and Gerhardt speak of the possible increase of flatness upwards beyond the line of the fourth rib.

There is some difference of opinion as to the extension of the flatness to the right of the sternum. Shroetter contends that increase of flatness to the right of the sternum as diagnostic of enlarged heart is not nearly so frequent as is generally supposed, and gives as an instance of great increase in size two to five centimetres to the left of the left mammary line, and possibly two to four centimetres beyond the right edge of the sternum. Professor Ellis doubts if we ever find flatness beyond the right edge of the sternum, and says that it would be especially rare as low as the fifth interspace. Oppolzer says that the flatness may possibly reach one centimetre beyond the right edge of the sternum: the other authors either give the right edge of the sternum as the limit, or do not state definitely the part of the sternum where the flatness passes to the right. Weil holds that, even in extreme cases, the absolute dulness or flatness does not encroach on the fifth right intercostal space, while the relative dulness may extend over the right edge of the sternum for from two to three centimetres. The area of flatness of an enlarged heart represented in Diagram VI., gives the combined views of these authors, to even an exaggerated degree, so as to avoid all error, and it will be seen that the area of flatness, represented by A, does not enter, to any appreciable degree, the fifth right intercostal space.

All these authors consider that the form of the area of flatness of an enlarged heart is determined by the retracted border of the lungs.

Oppolzer and Kunze find that, in enlargement of the whole heart, a truncated triangle form of flatness is sometimes found. Weil also, in his plates, makes the area of flatness of an enlarged heart have a triangular shape. According to these authors' own testimony, then, we cannot consider the triangular or truncated pyramid form of the præcordial area of flatness decidedly characteristic of effusion, for both the normal and enlarged heart may assume these shapes.

On precise experiment, also, we find that the form of the area of flatness merits the name of a semicircle in the small effusion rather than a triangle or pyramid, and that the latter terms certainly would be misleading if applied to the large effusion as represented in Diagram V. Why then retain these misleading terms, which only tend to confuse us in our endeavors to properly appreciate the subject?

As, however, the effusion, as it varies in its amount will also vary in its form, it is wiser in making our diagnosis by percussion, not to seek for any particular shape, but to find a part of the thorax where flatness on percussion will be significant of effusion. Now the flatness found to the left of the sternum, that found in the vertical line, and possibly that found to the right of the sternum above the fifth rib, may occur and yet no effusion be present; we therefore eliminate all that area of flatness marked in Diagram VI., area A, and find that we have left, in both the small and large effusion, an *area of flatness in the fifth right intercostal space*, as represented in Diagram III. In this interspace the flatness first appears as characteristic of effusion. It probably also appears, at the same time, to the left of the sternum, but the physiological flatness of the heart here obscures it. For diagnosis, then, *flatness, at from two to three centimetres*

from the right edge of the sternum in the fifth intercostal space, would be almost absolutely sufficient to mark the presence of an effusion, unless the opinions of authorities, on enlarged heart, are proved to be incorrect; and I would here merely suggest, as it is a subject which I expect to treat of in a future paper, that puncture of the pericardium can safely be performed in the fifth right intercostal space, at from four and a half to five centimetres from the edge of the sternum, where the flatness, as is shown in Diagram III., extends even beyond the line E E′ E″, which represents, in Diagram VI., the relative dulness of the enlarged heart, according to Weil. At least it will be far safer, so far as the heart is concerned, to perform paracentesis at this point, than where it has been heretofore advised and practised by surgeons, namely, in the third, fourth and fifth left interspaces; for, as is seen in Diagram III., we may, in the third and fourth spaces, have our flatness caused by the physiological flatness of the heart, and by referring to the casts of cocoa butter, which I have preserved, we find that the layer of fluid, even when present, is thinnest over that portion of the præcordia and also in the part which corresponds to the fifth left interspace, while it is thickest at the sides.

There are a few points which it will be well to speak of here.

The lung seems to retract before the fluid, and it is the lowest part of the lung which first retracts, thus leaving a curved line of flatness with its convexity outwards.

The top of the area of flatness is almost on a line with the broadest diameter of a small effusion, as is seen by comparing Diagrams III. and IV.

Additional value is given to the diagnosis of an effusion by percussion, from the facts, that where an effusion is present, the friction sound need not necessarily have ever occurred; that the apex beat in effusion may be felt to the left and below the nipple, as in enlarged heart, extending

outwards as far as the line of flatness does, and vice versa; that at times the apex beat of an enlarged heart may be very feeble, and even imperceptible; also, that the rational signs of enlarged heart and pericardial effusion may be at times almost identical.

In conclusion, I shall describe as briefly as possible the extremely small number of clinical observations which I have been able to make during the past winter.

The first was a woman who died at the Channing Home. Flatness on percussion was found in the fifth right intercostal space to the distance of five centimetres from the edge of the sternum. There was no increase of vertical flatness. The autopsy showed the pericardium to be distended with about one hundred and twenty cubic centimetres of fluid.

The second case is especially interesting, as showing the difficulty which may be met with in the differential diagnosis between enlarged heart and effusion, without the aid of our *fifth right intercostal space*. This case, a boy six years of age, is best spoken of in connection with another, a girl eleven years of age, who was under observation at the same time, through the kindness of Dr. Davenport of the Children's Hospital. In both patients the same rational signs were presented, such as orthopnœa, præcordial pain, etc. In both cases the attack followed acute articular rheumatism. In both cases the force of the heart's impulse was of about the same intensity, and appeared to be a little to the left, and below the left nipple. The vertical flatness was not increased in either case; the area of flatness to the left of the sternum was identical in both cases. In the boy, however, flatness was found in the fifth right intercostal space, while in the girl it did not extend beyond the left edge of the sternum. In the boy a loud undoubted pericardial friction sound developed at the base of the sternum; in the girl a decided murmur developed at the apex of the heart. These last two symptoms are spoken of to show the strong

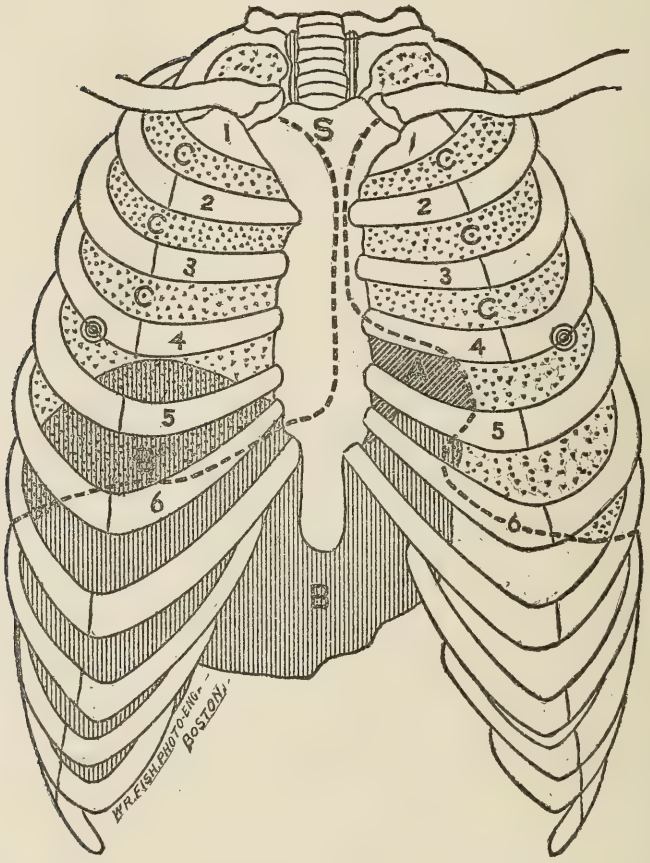
probability of the correctness of the diagnosis that the boy was a case of pericarditis, and that the girl was a case of endocarditis with enlarged heart, though of course this could only be proved by autopsy, and the cases must merely be taken for what they are worth; but, when we remember that the friction sound might have been absent, and that apparently endocardial murmurs may occur, where no disease of the heart itself, but merely a pericardial effusion is present, we again have to appeal to our *fifth right interspace* for diagnosis.

My third and last case was a patient seen at the City Hospital, whom, through the kindness of Dr. Doe, I was allowed to thoroughly examine. In this patient the area of percussion flatness verified by Dr. Doe, exactly corresponded to that marked out in Diagram III., and I made my diagnosis simply by the flatness in the *fifth right interspace*. The case was especially interesting from the fact that it illustrated Gerhardt's observation of the change of the area of flatness in effusion on change of position of the patient. When the patient was in the position of orthopnœa, we obtained the fifth interspace flatness; when she was horizontal, this flatness disappeared, leaving the normal resonance of the lung.

As additional proof that this was a case of pericardial effusion, an undoubted pericardial friction sound, testified to by several of the physicians at the Hospital, developed, and according to Professor Traube it is exceedingly rare to mistake this sound for a pleural friction sound.

DIAGRAM I.

NORMAL THORAX.



A—Physiological area of percussion flatness of the heart on expiration.

B—Liver.

B́—That portion of the liver which is covered by the right lung.

C—Lung.

S—Sternum.

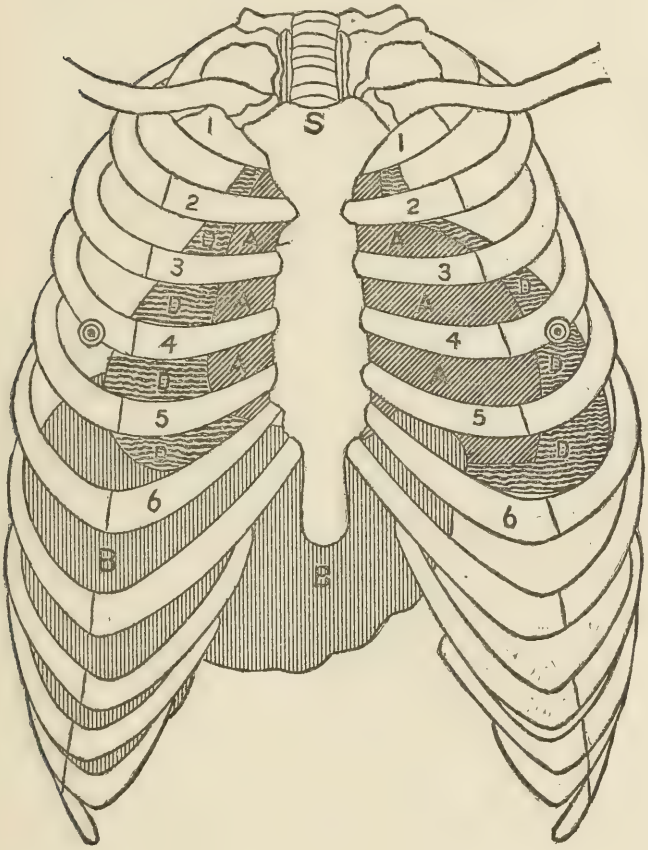
—Nipple.

1, 2, 3, 4, 5, 6—Ribs.

– – – Broken line—Border of lung.

DIAGRAM II.

THE LUNGS HAVE BEEN REMOVED.



A—Normal shape of the heart in its pericardium.

B—Liver.

D—Effusion.

A+D—The shape which the pericardium resumed, in a case where considerable fluid had been introduced into the sack.

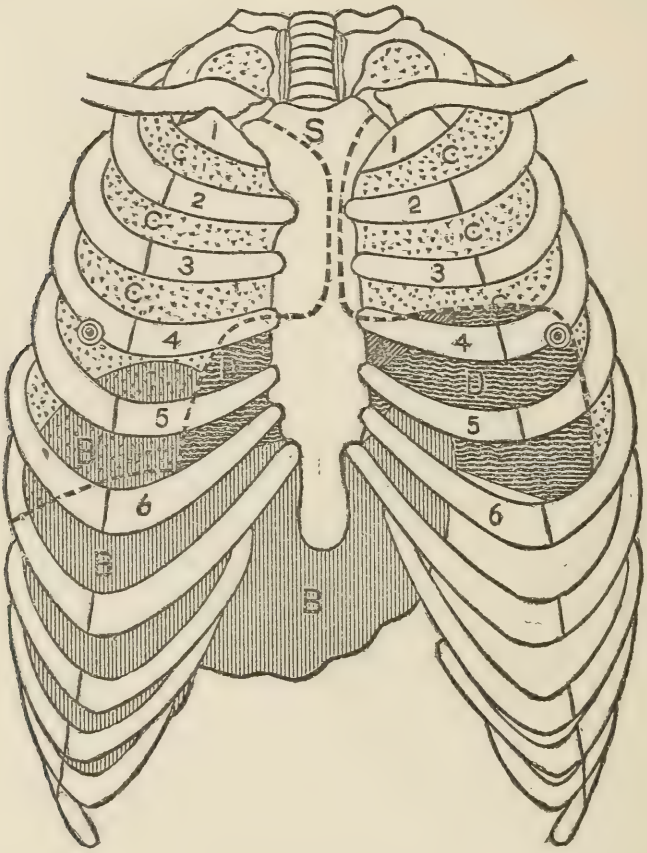
S—Sternum.

◎—Nipple.

1, 2, 3, 4, 5, 6—Ribs.

DIAGRAM III.

A Small Amount of Liquid has been Introduced into the Sack.



A —The portion of the area of flatness which is still caused by the physiological flatness of the heart.

B —Liver.

B —That portion of the liver which is covered by the right lung.

C —Lung.

D —Effusion.

A+D—Area of percussion flatness found when the effusion is small.

S—Sternum.

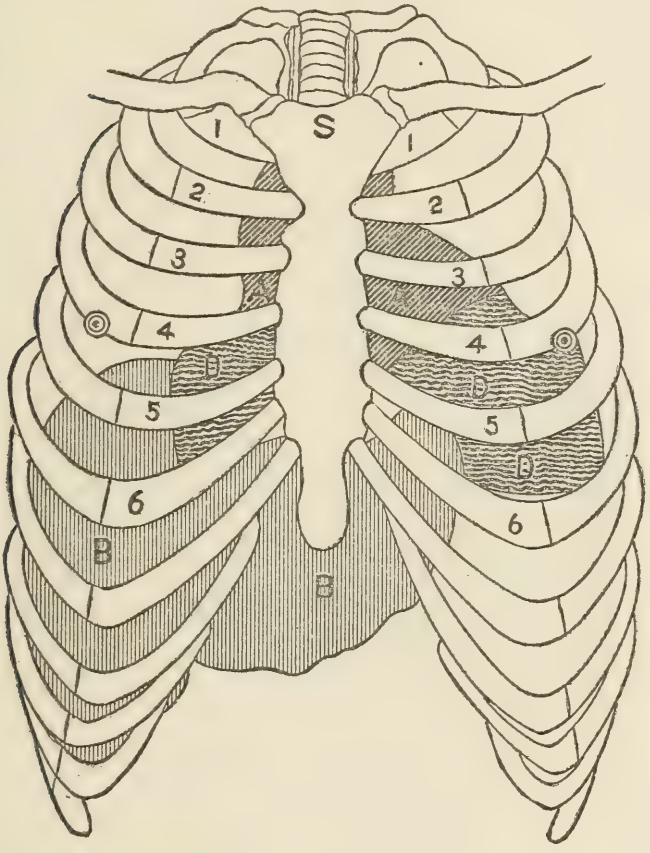
◎ —Nipple.

1, 2, 3, 4, 5, 6—Ribs.

- - - Broken line—Border of lung.

DIAGRAM IV.

REPRESENTS DIAGRAM III. WITH THE LUNGS REMOVED.



A—A portion of the normal heart enclosed in the pericardium.

B—Liver.

D—Effusion as it appeared in the sack, the cocoa butter being in small amount, and the lungs having been removed, after the butter had hardened.

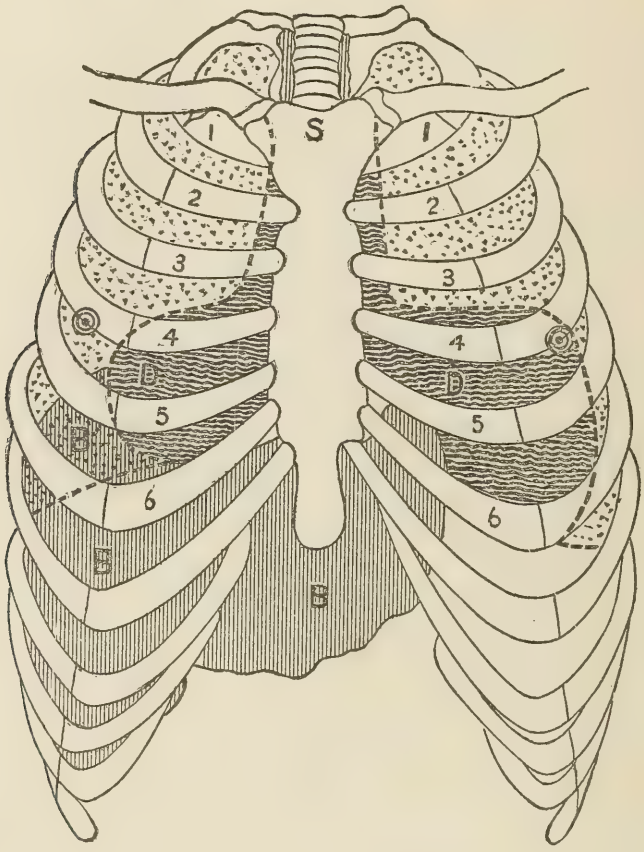
S—Sternum.

—Nipple.

1, 2, 3, 4, 5, 6—Ribs.

DIAGRAM V.

A Large Amount of Liquid has been Introduced into the Sack.



B —Liver.

B́ —That portion of the liver which is covered by the right lung.

C —Lung.

D —The area of percussion flatness caused by a large effusion

S—Sternum.

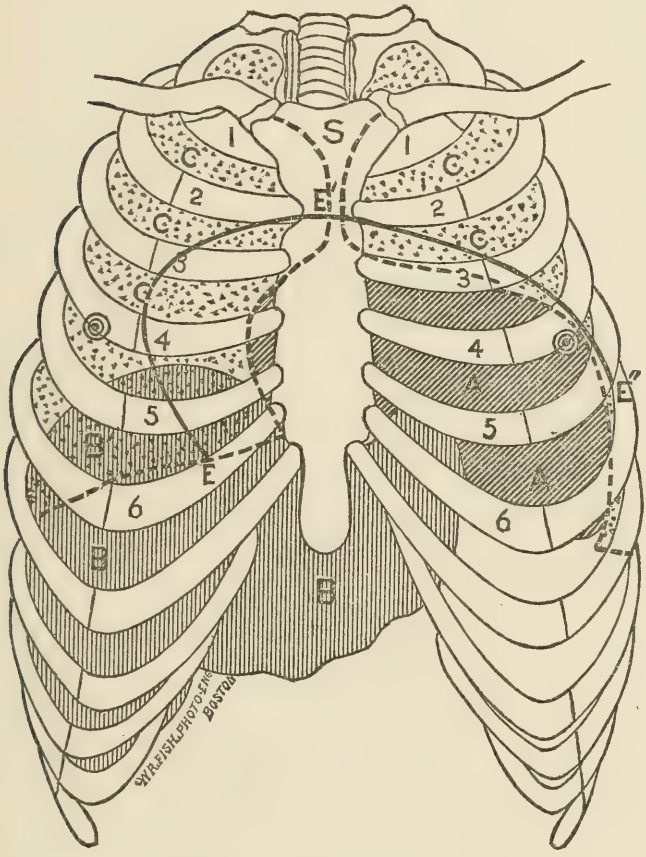
—Nipple.

1, 2, 3, 4, 5, 6—Ribs.

- - - Broken line—Border of lung.

DIAGRAM VI.

ENLARGED HEART.



A—Area of percussion flatness caused by an enlarged heart.

B—Liver.

B'—That portion of the liver which is covered by the right lung.

C—Lung.

E E′ E″—The line marking the area of relative dulness of the enlarged heart.

S—Sternum.

—Nipple.

1, 2, 3, 4, 5, 6—Ribs.

- - - Broken line—Border of lung.

REFLEX SYMPTOMS IN HIP DISEASE.

By EDWARD H. BRADFORD, M.D.
OF BOSTON.

READ JUNE 12, 1878.

REFLEX SYMPTOMS IN HIP DISEASE.

Symptoms, which may be classed as reflex, common to all joint affections, are of particular importance in hip disease, from the anatomical relations of the joint, surrounded as it is by large and powerful muscles.

I.—The first of these, stiffness or limited motion at the hip joint, has always been regarded of value in diagnosis.[1]

Mr. Marsh, in a recent lecture, says: "Stiffness at the joint affords direct evidence of hip disease, so that in a vast majority of cases it is an aphorism that if it be present the joint is affected, while if absent the joint is sound." (*Brit. Medical Journal*, July 21, 1877.)

Mr. Holmes writes (Surgical Treatment of Children's Diseases, p. 441), "coincidently with early symptoms of hip disease is a stiffness of the joint, which appears to me the best and earliest test of the affection."

Valette writes, "Avec l'integrité des mouvements de la hanche pas de coxalgie." (*Nouveau Dict. de Med. et Chir.*)

To learn the value of this symptom I have examined with care the mobility at the hip joint in one hundred patients; in half of whom hip disease existed at various stages, and in the remainder either the joint was healthy or some affection was present liable to be confounded with hip disease.

Examination for limited motion is most readily made by placing the patient on a hard surface, as the floor or a table. The leg is held by the examiner, each thigh gently flexed,

[1] Holmes. System of Surgery, vol. iv. p. 85.
Sayre. Orthopædic Surgery, p. 234 & f.

the amount of *flexion* without force noted. The amount of abduction, adduction and rotation should be observed both when the limb is flexed and when extended.

The patient should be then turned on to its belly, and the amount of extension (motion in the opposite direction to flexion) determined by noting the extent to which the thigh can be lifted without raising the sacrum.

In health, the amount of extension is in almost all cases[1] sufficient to allow the examiner to press the popliteal surfaces upon the level on which the patient lies (upon its back), without arching up the back or twisting the pelvis in the manner figured in Bonnet's work and in Dr. Sayre's book on Orthopædic Surgery.

In frightened children and in nervous patients, passive motion often excites considerable muscular resistance. The limb may be held stiff. This normal muscular resistance, as it may be called, I have always found the same at both hip joints, a fact of value in diagnosis. This resistance differs, in a way which is not easily described but readily noticed, from that encountered on moving a thigh when the hip joint is affected.

Individuals vary as to the extent of motion at the hip joint, but this in any one person in health will always be found the same at both joints.[2]

The following cases well illustrate the amount of motion at the hip joint seen in hip disease :—

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[1] In one of the healthy cases which I examined, I found it impossible to press either popliteal surfaces upon the floor without arching the back; the child was frightened and resisted examination. I found this also the case on examining the motion at the hip joint of a still-born child.

[2] The Weber brothers found that the arc of flexion and extension at the hip joint was, in the cadaver, the soft parts being removed, 139°; the arc of ab- and adduction, 90°; of rotation, 51°. In living subjects the arc of flexion and extension was 86°, or, according to Nicaise, 90°. In the living subjects I have examined, I found the arc of flexion and extension greater than this.

In two adults, where the arcs of motion were carefully noted, I found 135° and 112° the arc of flexion; ab- and adduction was 63°, 69°.

In a still-born child (the muscles not having been divided) the arc of flexion and extension was 112°; of ab- and adduction, 90°.

In the cadaver of an adult, the muscles of the thigh having been partially cut

Case 1.—L., boy of healthy appearance, $3\frac{1}{2}$ years old. Had been noticed to limp slightly with the right limb for a few weeks. Did not complain of pain, but three days previous to the time when first seen had complained of slight pain on getting out of bed. On examination, no more limitation of motion could be found at the right hip joint than at the left. Motion in all directions (flexion, extension, ab- and adduction and rotation) was remarkably free and smooth. Extension sufficient to allow pressing the right popliteal surface and the lumbar spinous processes on the same plane without causing any obliquity of the pelvis (Bonnet-Sayre test); no tenderness to be found in the region of the hip joint; no pain evinced during examination. The examination was made with care, and was repeated by others with a like result. A second examination a few days later, gave a similar result. On a third examination, a week later, the motion at the right hip joint was found, in flexing and in extending, slightly limited (5°–10°). In a few days the child complained of stiffness in the morning, when getting out of bed. This passed away in the course of the day, as the child played about. In a short time the patient was seized by a severe attack of pain in the right groin. This was relieved by extension and rest in bed. In a few weeks the child was allowed (against advice) to run about, and in the course of six months the disease at the joint had progressed to the suppurative stage of hip-joint disease, with the formation of abscess and the usual characteristic symptoms.

This case was seen at a very early stage, and is the only one, among the fifty which I examined, where limited motion was not found. It is interesting as disproving the aphorism

away, the arc of flexion was 110°. When the cadaver was laid on its belly, the thigh could be lifted, without raising the sacrum (extension), 15°. If the limb was abducted slightly, extension was freer than when moved in the line of the body. This is due to the fact that the gluteus minimus is inserted on outer and anterior aspect of the trochanter. When the limb is abducted slightly, this muscle is not so quickly made tense as when the limb is straight.

of Valette (Nouveau Dict. de Med. et Chir.): "Avec l'intégrité des mouvements de la hanche pas de coxalgie." This symptom soon appeared.

Case 2.—D., well-nourished child, five years old. Suffered one year and a half before from brief severe attacks of pain in the left groin, considered rheumatic, at intervals of three and six months. These attacks lasted about a week, after which the child was able to play about freely without suffering pain. A severe attack of pain occurred in the spring of 1877. Examination after recovery from this attack, showed that flexion at the hip joint was easy in an arc of 10°. No extension or abduction was possible. The limb was held slightly flexed. The disease progressed, and in a few months there was no motion at the hip joint. Severe nocturnal pains occurred, and the usual symptoms of hip disease followed.

Case 3.—L., girl, nine years old, seen after recovery from a severe attack of pain in the groin. Flexion at the hip joint easy in an arc of 90°. Resistance encountered on abducting and extending. The limb kept ordinarily in a position of slight flexion. The case did not come under treatment, and within six months the characteristic symptoms of hip disease, with suppuration at the joint, appeared.

Case 4.—F., aged nine, hip disease of two years' duration, attended with the formation of abscess. The limb had been kept in good position by treatment, but there was no motion at the joint.

The amount of limited motion therefore varies. This was found in all the cases of hip disease examined. Motion was limited to an equal degree in flexing and in extending. In the lighter cases the limitation of flexion is less readily estimated than extension, and therefore less valuable as a symptom. Abduction is almost invariably limited.

In stages of acute pain the thigh is held stiff; motion becomes freer after the painful stage is passed.

Limited motion at the hip joint was found in some other affections than hip disease. It was marked in two rather unusual cases of what may be called "sprain" at the hip joint, an affection which has, according to Bonnet,[1] not received due attention.

Case 5.—W., healthy boy four and one half years old, had been perfectly well until three days before examination. While playing, had jumped and fallen down a short flight of steps. He suffered some pain after the fall, but walked about afterwards without complaint. On the following night, however, suffered some pain in the region of the right hip joint. This was at no time severe. The boy limped in walking, and was unable to walk any distance.

On examination, by Dr. Post, of Boston, and myself, it was found that the right thigh could be flexed only in an arc of 80° without causing muscular resistance. The left thigh could be easily flexed in an arc of 120°. Abduction of the right thigh was more limited than of the left. No difference could be detected in rotation. Extension at the left hip joint was free, but was limited at the right, it being impossible to press the right popliteal surface upon the floor without arching the back, although this could be done with the left. The boy continued to improve without treatment, being allowed to run about. The pain soon ceased and did not return, except that once, a fortnight after the accident, the patient complained of slight pain in the groin. When examined, three months later, no limitation to motion was found; and on a third examination, nine months later, the motion at the right hip joint was found equal to that in the other, and was perfectly smooth. The boy had been entirely free from pain, or limping in gait, since a short time after the accident, and had played about as usual.

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[1] Il faut étudier les entorses (de la hanche) dont l'étude est aussi importante que négligée. Bonnet, Mal. des Art., T. ii. p. 200.

Case 6.—C., adult, aged thirty, was thrown by the lurch of a steamboat suddenly forward and to the left. The patient did not fall, recovering himself by a violent effort; but suffered sharp pain behind and above the trochanter, and was unable to move without pain for several minutes.

When examined, two days later, some tenderness was found in pressing on and behind the trochanter. No pain was caused on flexion or extension. Passive motion in the left limb less free in the direction of abduction than in the right—in other directions, the amount of motion at both joints was equal. The patient limped considerably in walking, but this passed off in a few days without any treatment.

Limited motion was found at the hip joint in the following case, where a positive diagnosis is not possible:

Case 7.—A healthy child, five years old, was suddenly seized, without known cause, with severe pain in the left limb located chiefly at the groin, which was increased on any attempt at motion. The left thigh was held flexed. At the end of two days the pain had subsided, and the child got up and walked about, but was seen to limp with the left limb.

When the child was examined a few days later, no pain or tenderness could be discovered at the hip joint, and the child had complained of none since the first attack. There was slight stiffness at the left hip joint, it being impossible to place the popliteal surface of the left limb on the floor without arching the back. This limited motion in the direction of extension was quite marked when the patient lay on her face with the thigh lifted. There was also a slight limitation to flexion on the left side. A second examination, made by Dr. C. P. Putnam, of Boston, gave a similar result.

The child was kept quiet in bed for a month, after which time she played about as usual. The limited motion was not found a fortnight after the original attack of pain, and

on repeated subsequent examinations the motion at both hip joints was found the same. There has been up to the present time, seven months after the attack of pain, no recurrence of pain, limping in gait or peculiarity in the position of the limb, and the child has enjoyed perfect health.[1]

In several cases of caries of the spine extension of the thigh was found limited, but flexion remained normal.

In a case of obscure abdominal abscess, perhaps "perinephritic," the same was true in a very marked degree.

In two patients suffering from what was considered caries of the trochanter, not involving the hip joint,[2] flexion of the thigh was quite free, but the limb could not be extended from the slightly flexed position in which it was held—there was thickening of the femur about the trochanter and sinuses leading down to the femur.

In a few cases where some of the symptoms would suggest hip disease, perfectly free motion was found, as follows:

a. Sciatica in an adult, in a subacute stage. The thigh was held, by the patient, slightly flexed and adducted. The motion at the joint was perfect.

b. Inflamed glands in the groin of a child, caused by a contusion. The thigh was flexed and adducted; there were swelling and tenderness in the groin. The motion in all directions, in extension as well as flexion, was free.

c. In two cases of the rare affection, sacro-iliac disease, which I saw through the kindness of Dr. Poore, of New York,[3] the motion at the hip joint on the affected side was free and smooth. This is said to be the rule in this affection.[4]

Limitation to motion has been mentioned by authorities as having been seen in various affections.

Bouchut has observed a contracted condition of the flexors

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[1] It is possible that this case may have been one of beginning hip disease, where recovery took place in the month of rest.

[2] N. Y. Medical Record, April, 1875. Several cases of this affection, simulating hip disease, are reported by Dr. Gibney.

[3] Am. Journ. Med. Sciences, Jan. 1878.

[4] Nicaise, Diagnostic des Maladies de la Hanche. Paris, 1869.

of the thigh (and hence a limitation of motion in extending the limb), in a case of infantile paralysis, which, from the position of the limb, suggested hip disease. This condition is rare. In the cases of infantile paralysis affecting one lower extremity, which I have seen, the motion at the hip joint was much freer on the affected than on the normal side.

M. Verneuil has recently described a contraction of the adductors simulating hip disease. There is an awkwardness in gait and an interference in abduction and extension, but not in flexion.[1] Both limbs are usually affected.

In the affection called "hysterical" coxalgia, "neuralgia" of the hip joint (Brodie), the thigh at times will be held perfectly stiff.[2]

In muscular rheumatism, affecting muscles about the hip joint, there is said to be a stiffness on moving the thigh from the pain caused; this is entirely different from the painless resistance encountered in early hip disease.[3]

In the only case of muscular rheumatism of muscles of the thigh which I have examined, the motion at the hip joint was quite free.

In acute inflammatory affections of the hip joint, other than hip disease proper, the joint is held stiff.

In morbus coxæ senilis (arthrite sèche) there is stiffness at the hip joint similar to that seen in commencing hip disease (Robert Adams's *Rheumatic Gout*). A diagnosis must be based on the age of the patient (Verneuil, *Gaz. des Hopitaux*, Feb. 19, 1878).

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[1] Gaz. des Hopitaux, July 28, 1877.

[2] Barwell's Diseases of Joints. Brodie's Neuralgia of Joints. Nicaise, Diagnostic des Maladies de la Hanche, p. 92. Jacobi, Am. Journal Obstetrics, June, 1876, p. 218. Albert, Wiener Klinik, 2d series Huftgelenkkrankheit. Taylor, New York Med. Record, 1875, p. 321. Philleppaux, Gaz. Hebd. No. 10, 1867.

[3] Pour reconnaitre la contracture rheumatismale de la hanche on emploiera la faradisation de la hanche, ou emploiera la faradisation qui la fera bientôt cesser.—Nicaise, *Diagnostic des Maladies de la Hanche.*

This is not the case in hip disease.

The conclusions to which I am led, from the examinations made, may be summed up as follows:

Stiffness or limited motion of the hip joint may rarely be wanting at the very commencement of hip disease, contrary to what has been taught.

The symptom is, however, an early and constant one; much more so than the presence of pain or tenderness.

This limited motion may be so slight as to be only detected by the exercise of great care, or may be enough to cause complete stiffness of the joint. The amount depends probably upon the activity and duration of the process.

The symptom is also seen in other diseases of the hip joint.

In certain affections about the joint, but not involving it, in muscular contractions from various causes, there may be limitation to motion. This symptom is not an early one, and differs from the resistance encountered in the early stage of hip disease. In hip disease the motion of the thigh is limited both in flexing and in extending to an equal degree. In affections not involving the joint, the limitation to motion is not so uniform; flexion may be possible to the usual amount, while the motion of extension may be absent.

Resistance to motion to an equal degree in all directions is highly characteristic of a joint affection.

II. Muscular Contraction.

Motion at a healthy hip joint is limited by the tension of the muscles about the joint.[1]

In hip disease at its early stage, stiffness of the joint is due to muscular contraction. When the patient is anæsthetized the thigh moves freely. This contracted state of muscles can be used in diagnosis.

[1] Hencke. Quoted in Hueter (Klinik d. Gelenhk, and also Weber bros. exper.). This can be readily seen on cutting the muscles about the hip joint in the cadaver.

In certain cases, chiefly frightened and nervous children, when examination is difficult, it is a valuable symptom. In one patient, a nursing child one year old, this was the only positive symptom of hip disease I was able to find on the first examination.

In all of the cases of hip disease which I have examined with care, with one exception (Case 1 when first seen[1]), certain of the muscles were found either *contracted* or in a state of *irritability*.

The muscles where contraction is most readily felt are the adductors, which, on palpation, will be found frequently hard and firm. At its insertion at the ramus of the pubes, the tendinous origin will be felt like a tightly drawn cord.[2]

This symptom is not always to be found on patients under thorough treatment, or in patients where the soft tissues have been infiltrated by suppuration.

The anterior border of the tensor vaginæ femoris will be frequently found firm and thickened. This I have seen at a comparatively early stage of the disease.

At a later stage of the affection, if the soft parts are not infiltrated by suppuration, there is rarely difficulty in detecting muscular contraction.

III. Stage of Muscular Irritability.

Before the muscles become contracted, or after the stage of muscular contraction has passed away, provided inflammation remain at the joint, the muscles of that region are in

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[1] This was one of the first cases seen, and it is possible that muscular "irritability" might have been present and not recognized; as the subsequent examination of cases showed that some little experience made the recognition of the early symptoms more easy.

[2] The part played by the muscular contractions in the "vicious" positions of the limb, described by Bonnet, is undoubtedly a prominent one. The influence of effusion in giving a peculiar position to the limb is probably not as great as has been assumed. That it is of more importance than has been stated by some writers, is easily verified by experiment. Inserting a large sized needle of an aspirator into the hip joint of a still-born child, I injected slowly an ounce or two of fluid; the thigh was flexed and abducted slightly, and rotated outwards. Bonnet and Weber's careful experiments can be confirmed in this way without trouble.

a state of irritability, or muscular erethism (éréthisme de la contractilité musculaire—*Bouchut*). M. Verneuil terms this condition "vigilance musculaire"; or, as Dr. Sayre well expresses it, the muscles are "on guard" to protect the joint. The joint cannot be considered healthy as long as this symptom is present.

This state of muscular irritability is manifested by a liability to a characteristic spasmodic contraction of the muscles, or to an impairment of the elasticity of the muscles (if the term be allowed), felt on passive motion of the limb; there is "a reluctance of the muscles to relax"—(*Taylor*), or passive motion is interrupted by muscular twitches.

In testing for this symptom no force should be used in moving the thigh. A certain amount of practice is needed in the least marked cases to distinguish this state of muscular irritation which is a pathological one, from the physiological muscular resistance on moving the thigh of a fretful child. Patience and a comparison of the motion of the two thighs will help in this examination.

The nocturnal pains are known to be due to this state of muscular erethism. To use Dr. Sayre's metaphor, they are the alarm of the sentry. The muscles relaxed by sleep are suddenly spasmodically contracted, and the diseased surfaces crowded together, causing pain.

This muscular irritability can be observed in the acute attacks of pain which occasionally are seen to interrupt the chronic course of hip disease.

In Cases 2 and 4 the muscles at one time were so easily excited to contraction that the patella was seen twitched upwards one half to one inch, by a spasm of the quadriceps extensor cruris; although the limb was not jarred or touched, and had been kept for some time in perfect rest with efficient extension.

This condition of muscular irritability was seen in the following cases, in a manner undoubtedly observed by others, but which I have not found mentioned:

Case 8.—D., boy, five years old, hip disease, six months duration, with the usual symptoms, slight motion at the hip joint. Passive motion causes a muscular tremor of the muscles on the outer and anterior side of the thigh and of the buttock. This resembled the muscular quivering seen in progressive muscular atrophy. This was also seen on striking lightly the gluteus maximus.

Case 9.—P., nine years old, hip disease, one year's standing, no motion at the hip joint. Any attempt to lift the knee causes muscular tremor of the muscles on the anterior and outer side of the thigh.

Case 10.—S., seven years old, hip disease, four months standing motion at the hip joint in an area of 10°. Motion caused muscular tremor of the muscles on the outer and upper surface of the thigh. No pain on passive motion.

Case 11.—Adult, cachectic looking man, thirty years old. Limping in the right limb for a few months, slight rheumatic pains, limitation of motion in extension. Passive motion causes marked muscular tremor of the gluteus, vastus externus, rectus femoris. No pain on moving the limb.

Other cases might be cited, but the above will be sufficient.

The muscular tremor observed in these cases was peculiar. The whole belly of the muscle did not contract, but individual muscular bundles would twitch successively, giving an appearance of tremble to the whole muscle as if it shuddered at the thought of motion.[1]

In the cases where this was most readily seen, the patients were muscular, and there was but little adipose tissue.

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[1] Dr. J. J. Putnam has observed, in cases of rheumatism of the joints (both acute and chronic), muscular tremor of the muscles about the joint, on motion of the limb both active and passive.

If much force was used in the passive motion, the tremor was masked by a marked contraction involving the whole muscle.

IV. Diminution in electro-muscular contractility in muscles about the joint has been observed for some time in affections of the joint.

Mr. Lefort (Valtat De l'atrophie musculaire dans les maladies des articulations, Paris, 1877, p. 9) pointed out the fact that the loss of contractility on electrical irritation, instead of following muscular atrophy in joint disease, precedes it. In cases of synovitis of the knee joint this symptom is to be seen at the very beginning of the affection.

Valtat quotes a case of hip disease in which he found a diminution of electrical contractility to the Faradic current in the tensor vaginæ femoris, and in the quadriceps extensor cruris.

Dr. N. M. Shaffer (Reflex Muscular Contractions, etc., in Joint Disease, New York, 1877, p. 10) mentions four cases of hip disease examined by Dr. Seguin, in which there was a decided decrease of Faradic contractility in the muscles of the thigh, but those of the leg showed a normal re-action.

The following cases of hip disease were examined for me through the kindness of Drs. Webber and Putnam; in all a marked diminution of re-action to the Faradic current was found:

Case 12.—McD., aged nine years, suffered from hip disease for four months, with the usual symptoms; there was marked atrophy of the limb and slight motion at the joint. Faradic contractility of muscles on the anterior surface of the thigh was diminished on the left (the affected) side more than on the right, by one half, both on direct and on indirect irritation. The subsequent course of the case confirmed the diagnosis. The patient subsequently underwent excision of the hip joint and died.

Case 13.—Boy eleven years old, hip disease, beginning when the boy was two years old. All sinuses and abscesses had ceased discharging. A natural cure of the disease, with anchylosis. Child able to run about with perfect freedom. Affected limb shortened and smaller than the other. Diminution of muscular contractility to Faradic irritation was found on the anterior and outer side of the thigh. The contractility of the adductors was also diminished, but to a less degree.

Case 14.—Boy, aged 10, hip disease, one year standing; diminution of the Faradic contractility in muscles on the anterior surface of the thigh of the affected side.

Case 15.—E., five years old, hip disease of several months duration, slight atrophy. Marked diminution of the Faradic contractility (on direct irritation) was found in the rectus femoris of the affected side. This was not the case with the sartorius muscle. The tensor vaginæ femoris could not be satisfactorily examined.

Case 16.—E. P., seven years old, hip disease of two years standing, slight atrophy. Marked diminution to Faradic irritation of the muscle, supplied by the crural nerve, on indirect irritation of these muscles; this less marked on direct irritation.

Case 17.—H., eight years old, hip disease of two years duration, slight atrophy, limb kept in good position by treatment. Diminution in re-action to faradization found on indirect excitation of the muscles supplied by the crural nerve.

In all of the cases which I examined, atrophy was present. I am unable to say which symptom is the earlier.

This symptom is not readily recognized in young children; but promises to be of value in forming a diagnosis between hip disease and hysterical coxalgia.

ATROPHY.

Valtat, in a recent monograph, has carefully investigated this symptom in affections of all the joints. He finds it a very early and constant one.

My observations in regard to this symptom have not been sufficiently extended to warrant publication.

The symptoms above mentioned (muscular contraction, muscular irritation, diminution in electro-muscular contractility, atrophy) have been explained in various ways. It seems most rational to consider them all reflex symptoms.

Mr. Barwell speaks of a "joint sense," and claims that irritation of the joint is particularly liable to cause muscular spasm. He cites, as an example, the violent muscular spasm excited when a loose cartilage becomes lodged between the femur and tibia.

The existence of a "joint sense" suggests the "archæus" of the early medical writers, and seems hardly needed.

Muscular tonicity has been shown to be a reflex symptom,[1] which disappears on section of the sensitive root of the nerve supplying the part.

If irritation be present, the tonicity of the muscle is increased, and the muscle contracts.

The state called muscular irritation may be regarded as of a similar nature, but the result of a less powerful irritation; it is a lower stage of the same pathological change.

Atrophy and diminution in electrical reaction are early symptoms seen when the joint is slightly involved, and when disease of the limb has not operated long enough to cause the change.

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[1] Brondgeest (Ondezorkingen over den Tonus der Willekeurigen Spieren Utrecht, 1860). Cyon Pflüger's Archiv., vol. viii. 1878, quoted in London Medical Record, Jan. 1874. Erb and Westthal's recent observations seem to show the reflex nature of certain muscular contractions.

M. Ollivier well expresses the opinion at present generally received in regard to the nature of this group of symptoms:

"Le systême musculaire éprouve le contre-coup de presque toutes les affections qui peuvent atteindre les jointures." (Thèse de Paris, 1869.)

Mistakes in the diagnosis of hip disease are unfortunately not uncommon. The results of such mistakes are deplorable.

It has been said that every case of hip disease passes through a stage when it is called "rheumatism." It is precisely at this stage that a diagnosis should be made.

Cases are not unfrequently seen, where a diagnosis of "incipient" hip disease is made, although the disease has progressed so far that suppuration of the joint is imminent; it being apparently the opinion of some that hip disease is not present until grating can be felt on manipulating the joint, under an anæsthetic,—or in other words, until the disease has progressed to a dangerous extent.

The liability to error will be less, if the following facts be kept in mind:

1. Serious disease at the hip joint may exist when no pain is complained of, and when no tenderness can be discovered.

2. Hip disease may be present, although the motion at the hip joint is quite free.

3. If the motion at one hip joint is more limited than at the other, hip disease must always be suspected, and the symptom regarded as highly characteristic of hip disease.

4. At the earliest stage the limitation of motion most readily recognized is in the direction of extension.

ARTICLE XI.

MANY THINGS REMAIN TO BE DONE.

Massachusetts Medical Society.

SOCIETY'S PRIZE.

THE Committee on Publications are authorized to offer the sum of *two hundred dollars* as a prize, or honorarium, to any one Fellow of the Society who shall give, to the satisfaction of said Committee, on or before the 15th of April next, in an essay or report (worthy of a prize), the best and fullest evidence of any original or meritorious *professional work*, done by himself during the two years next preceding said date—in experimental investigations, scientific researches, or clinical observations

Papers may be sent to Dr. GEORGE C. SHATTUCK, No. 6 Newbury Street, Boston, on or before April 15, 1880, with motto and name, as usual in such cases.

FRANCIS W. GOSS,
Rec. Sec'y.

Roxbury, Boston, Aug. 1, 1879.

women, and no other State has traditions that can more fully inspire to bravery and patriotism, as

* At an Adjourned Meeting of the Mass. Medical Society, held Oct. 3, 1860, it was

Resolved, "That the Massachusetts Medical Society hereby declares that it does not consider itself as having endorsed or censured the opinions in former published Annual Discourses, nor will it hold itself responsible for any opinions or sentiments advanced in any future similar discourses."

Resolved, "That the Committee on Publications be directed to print a statement to that effect at the commencement of each Annual Discourse which may hereafter be published."

well as to research in art, science and literature than those possessed by Massachusetts, to which her sons and daughters point with pride and satisfaction. Plymouth Rock rests on her bosom; Bunker Hill with all its memories is hers; Harvard with its centuries of history is hers; and as she wheels through time and space she revolves around her own Hub, holding to view her own escutcheon literally covered with names as indelible as her own rock bound coast. High and prominent among these, written in letters of living light, stand out many names of medical men contemporary with her long list of worthies, to describe whose merits and worth, the pen should be dipped in the mellow brilliance of a morning sun-beam, and the language should be the promptings of *our own* poet's brightest dreams.

To-day we are assembled to add another link to the bright chain which binds us to the past, and I take pleasure in stating that we look with entire confidence into the ever turning face of the future. The leading medical men of the past have one by one gone to their rest, with duties done and destinies fulfilled, while others have been, and are coming forward, bearing the rich treasures of past experiences and discoveries, with continually increasing facilities for acquiring a knowledge of the science of medicine.

We commit our trust to the willing hands of our young men, fully believing that a glorious future awaits them. With such a blaze of light as now illumines their path-way from the collateral sciences,

and with such an ample literature as is placed in their hands, what may we not expect of them! There never was an age when the human mind seemed to run riot amid abstract principles, speculations, and untiring research, so completely as at the present time, and of all the subjects upon which human thought has been let loose, and toward the perfection of which human energies and intellect have been praiseworthily employed, no one is of more importance to the well-being of mankind than that which engages the attention of medical investigators; and no greater advancement has been made in any branch of science or literature than in the Science of Medicine during the last fifty years. No fruit of richer culture has been gathered from other fields than from ours. Yet, as in other fields, we have fallow lands, which are now being furrowed, and our young men have put their hands to the plough, now running deep and fast, looking straight forward—never back.

In his excellent oration of one year ago, Dr. Minot, after alluding to the activity and prosperity of this Society at that time, and after speaking of the advance which had been made in medical education, especially in the last few years, said, "Much remains still to be done." This sentence was penned by one who knew whereof he wrote, and was then, and is now, not only true as regards the Harvard Medical School, and this Society, but true in all departments of our profession. Innovations and discoveries in medicine and surgery are being made from year to year; and although much has

been done during the year now closing, I can say with the same force of truth, "Many things remain to be done." *Multa supersunt agenda*, should be plainly written across the noble brow of this Society, for so it will be in all coming time.

There is a broad, open road to where we now stand as a Society, and still "path-finders" are pressing on, spotting trees as they pass, and this Society is ready to open up a highway before them, helping to clear away the rubbish of error, and to aid in uprooting that stronger growth, force of habits in thinking and doing.

Fellows—The rising sun of our prosperity is high in the heavens; but is there no danger? There never was a greater untruth uttered than the saying, "When a man has once got his name up, he can lie in bed till noon." No, nothing but untiring industry will enable us to advance, or even to maintain the high position we now occupy. As well might we expect a church of Christ to succeed in its work, where the pastor and deacons absent themselves from the house of God, as for a society to prosper with inefficient officers at its head. Let us then, in the future as in the past, place able, active men at the front, and workers all along the line. There are men in all professions, who, having met with a certain amount of success, so far as collecting dollars and cents is reckoned success, seem determined to rest on their lees. They secure a certain amount of popularity, which flatters them, and being looked up to, and quoted by a few as authority, they immediately imagine them-

selves possessed of all wisdom and knowledge, and, evading study, they settle down into a routine life, self-sufficient, self-satisfied, and cultivate only one desire, which is to secure quietness of mind, banishing from them all study and investigation requiring mental effort. This is a most fatal mistake for a physician to make, as no other profession more strongly demands that the brain should be kept in an active working condition.

The practice of medicine and surgery is a work which cannot be slighted with impunity; it is no truer that poverty overtakes laziness, than that dulness and professional stupidity will meet detection. Nothing but faithful study, and a daily application in practice of the lessons given us along the road of our advancing science, will sustain us. This tendency to rest and ease, which follows us all, has become a fixed habit with too many. During forty years practice I have met many cases of this sort. I will speak of one whom I have known for years, whose library never contained over three books; whose medicine case (for he keeps his own medicines) is an old style cupboard of three shelves, each equally confused; whose medicine bags contain a tooth-key, a bit of gum opium and gum camphor, various packages of ipecac, rhubarb, soda, &c. &c., all redolent with that professional odor, the mingling of musk and assafœtida. The opium and camphor are dispensed in shavings cut from each with a jack-knife, not by weight or measure, but by a *my-trick* system usually safe. In sitting against time he is quite

successful in the practice of obstetrics, and here are his forceps [forceps exhibited]. The bilge water of Noah's ark had a corroding effect on surgical instruments.

In later years there has been a waking up, a moving among the dry bones; the community at large are learning in various ways that improvements and discoveries are constantly being made in medicine and surgery, not dreamed of years ago, of which we cannot afford to be ignorant.

Retrospective surveys of medicine have been made almost annually, but the necessity for this has been substantially removed for the present by the publication, by Henry C. Lea, of papers written on the history of "A Century of American Medicine"; by the late Dr. E. H. Clarke, of Boston, on "Practical Medicine"; by Dr. Henry J. Bigelow, of Boston, on the History of the Discovery of Modern Anæsthesia; by Dr. Samuel D. Gross, of Philadelphia, on Surgery; by T. G. Thomas, of New York, on Obstetrics and Gynecology; and by J. S. Billings, Librarian to the National Medical Library, Washington, D. C., on the "Medical Literature and Institutions of America." These papers trace the several branches with great fidelity, are a treasure to the Medical Profession of our country, and must be of value in the future, for by studying the past we may gather fresh zeal for the great unfinished work that lies before us, and may learn among other things whether this Society has answered its own expectations and ends, and how it has performed its duty to itself, and the profes-

sion of the State, and whether it can vindicate all its acts during its prolonged existence.

As we turn our eyes back over the early history of the Medical Men of Massachusetts, we see here and there one who stood high above the common mass of physicians, like a city set on a hill which cannot be hid; whose names are still venerated. Why is it thus? Why are their names cherished, and their ashes, and the places where they lie, held sacred? Because while they lived they did something to elevate the standard of Medicine; while they lived they did something to ameliorate the condition of their fellow beings, and to improve the health and happiness of mankind; and it is becoming in us to-day to remember the great and good of the past. The future is hidden from mortal eyes, except as we may reason from the known to the unknown, and infer what is to be from what has been. From what is known and from what has been we can safely infer, yes, safely foretell, that the Harvard Medical School is to become one of the leading Medical Schools of the world, where the highest education can be secured, and that the Massachusetts Medical Society in all the future will occupy that proud position, among the Medical Societies of the world, which it has held for so many years; and yet there are many things which remain to be done, and without any attempt at well turned sentences, I desire to speak of a few things of the many which remain unfinished.

It is a matter for regret that this Society has not long since taken steps to use its influence in

securing the universal establishment of the metric system of weights and measures in this State, a subject which has been brought from time to time to its notice, which was so forcibly presented one year ago by Dr. Edward Wigglesworth, and which with the instructions contained in the numerous circulars furnished each member, cannot have failed to interest, if not convince us all of its special advantages over the old system. Permit me to make a few quotations. Charles Sumner said of the metric system, "It was born of philosophy rather than chance;" that "it possesses universality, uniformity, precision, significance, brevity, and completeness." Dr. Wigglesworth says, "Every one should do all in his power to further its introduction, since it possesses such great merits in general; because of its safety, due to its uniformity and simplicity; because it is international, and because of its great convenience." Dr. T. B. Curtis said two years ago, "there can be but little doubt that we shall in time generally recognize the great merits of the metric system, and it may perhaps prove easier, if we are going to undertake any change in our system of weights and measures, to make it completely and once for all." Dr. Curtis believes "that the adoption by the medical profession of the metric system would be a most desirable consummation." It may not be known to all the Fellows of this Society that the Pennsylvania State Medical Society voted, in 1877, to recommend the use of the metric system to the members of that Society, and

to the public schools, to urge medical students to make exclusive use of it, and that in all communications thereafter made to that Society, the metric system alone should be used. The American Medical Association voted to recommend to all physicians the use of the metric system in their practice, and in their writings and teachings.

This is not the time or place for the discussion of this important subject, which is already so well understood by quite a large number of this Society, and most approved by those who have made it a study, but you will permit me to say, it should be made a matter of interest to each one of us; one which our old habits of thinking shall not debar us from investigating individually, so that the entire weight of this influential body may be thrown in the right direction and in its favor.

If the dignity of a man's character adds weight to his words, how great must be the weight of this Society on all matters upon which it may decide to exert its influence. In front before me are those "on whose forms age sits gracefully," and whose silver locks are marks of well-spent years filled with experiences in the practice of our noble profession; just behind them manhood in its prime is seen, while our young men fill up the back-ground; all in social contact, and all alike enjoying the inestimable advantages of association. Could all the members of this Society be governed and guided by one motive, strict professional fellowship; by one object, medical improvement; each and all moved by that high sense of

securing the universal establishment of the metric system of weights and measures in this State, a subject which has been brought from time to time to its notice, which was so forcibly presented one year ago by Dr. Edward Wigglesworth, and which with the instructions contained in the numerous circulars furnished each member, cannot have failed to interest, if not convince us all of its special advantages over the old system. Permit me to make a few quotations. Charles Sumner said of the metric system, "It was born of philosophy rather than chance;" that "it possesses universality, uniformity, precision, significance, brevity, and completeness." Dr. Wigglesworth says, "Every one should do all in his power to further its introduction, since it possesses such great merits in general; because of its safety, due to its uniformity and simplicity; because it is international, and because of its great convenience." Dr. T. B. Curtis said two years ago, "there can be but little doubt that we shall in time generally recognize the great merits of the metric system, and it may perhaps prove easier, if we are going to undertake any change in our system of weights and measures, to make it completely and once for all." Dr. Curtis believes "that the adoption by the medical profession of the metric system would be a most desirable consummation." It may not be known to all the Fellows of this Society that the Pennsylvania State Medical Society voted, in 1877, to recommend the use of the metric system to the members of that Society, and

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honor and integrity which govern the good and great for whom ethical codes are unnecessary, no earthly power, nor all the powers of darkness could for one moment stand in the way of the perpetual advancement of each and all. But we regret that our Councillors have felt the necessity of a code of ethics for this Society; and a committee was appointed two years ago to make a draft to be presented one year later to the Councillors for their consideration. Although the draft gave evidence of labor and study in its development, it was not accepted. It is to be hoped that if we are to be governed by a written law of our own, it will be as brief as may be, yet broad enough in its provisions to embrace *all* the relations of medical men in the State to each other; the relations between all general and regular practitioners and specialists of all classes, together with all surgeons and physicians of state and city hospitals designed for general and special practice. It is well understood by members of this Society that matters have not always run smoothly between country practitioners and city physicians and surgeons. Patients are flocking to the city of Boston and the smaller cities of the Commonwealth, for medical, surgical and special treatment; and while it is impossible that no disagreement of opinion should occur, still neither distance nor position should grant the least license for giving, by word or expression to, or before, a patient, what would have a tendency to injure the reputation of the family physician; and it should

be remembered that the opinion and treatment of a former attendant are often wilfully or ignorantly misrepresented by the patient and friends. The members of the Massachusetts Medical Society should aid the medical institutions of the State, and encourage special study and practice which have done so much in advancing medical science, and in turn receive that patient courtesy which is their due.

I refer with pleasure to the great work carried on by members of this Society and others in the broad field of Sanitary and Hygienic study; to their assiduity and success in searching out the causes of, and in averting, disease; to their faithful investigation regarding the influence of climate as cause and prevention of disease; the nature of endemic and epidemic diseases; the prevention and counteraction of the causes of fever; the sources of infection and their modes of communication and the agencies which offer protection; the causes and removal of pestilences; the influence of regimen and diet in protecting the individual from disease; in fact men are searching for all the means within the reach of art and science, for the prevention of disease and the preservation of health. This field is unbounded and ripe for the harvest, and although the laborers are not few, there is a great work yet to be done; no department of sanitary work is finished; even here at home, in Massachusetts and New England, protection is insufficient and incomplete. As vegetation can be found in

all latitudes and altitudes, from the sea-weed to the lichen upon the mountain-top, sending forth their exhalations, so endemic and epidemic influences, by whatever name they are known, from the yellow scourge of the South to the influenza of the North, are met in various degrees of severity, largely if not wholly dependent on local causes. As a single tub of stagnant water can satisfactorily stock a country village with mosquitoes, so a neglected sewer or drain will furnish a supply of filth fever for an entire neighborhood; and as the thistle down lifts its ripe seed from the receptacle and bears it through the air to curse other soils, so the atmosphere lifts chemical poisons and the germs of disease from beds of filth and pollution, diffusing them in endless variety through the different strata of air, changing too often the breath of life to the breath of death. Where the germ springs to life, sanitary work, to be successful, must also begin. Turn the tub upside down. Stamp out the thistle-bed of infection, and the work is done; all other efforts are only beating the air.

During the last few years, members of this Society have made numerous contributions to medical science and literature, which for patient research, prolonged investigation and clearness of statement, richly deserve commendatory mention before this Society, and grateful acknowledgments from the general public. It was my intention at one time to refer in detail to the innovations and discoveries which have been made of

late, but after collecting a large amount of material I reluctantly decided not to use it, as to do justice to each production would extend my paper to an inconvenient length. Let any one make out a schedule, even, of the original work which has been done in Massachusetts during the last seven years, and he will be greatly and most agreeably surprised at its amount and variety, and will be made proud of the record Massachusetts is making for herself, and the high position she is taking or occupies among the State Societies of our country in medical research.

When the Faculty of the Harvard Medical School were discussing the "New Departure;" of instituting an increased and more systematic course of instruction on the part of its professors, and a corresponding increase of qualifications, requirements, study, &c., on the part of students, many feared that the existence of cheaper and less exacting schools might cause young men to avoid the advanced regulations, and that the attempt might in consequence be a failure, however desirable such a change might seem. Long before the first three years of great anxiety were completed, those who were familiar with the working of the new regulations became convinced that whether successful financially or not, a higher key-note had been touched, and the school would never fall from the true pitch to play the old tune again; and it gives me true pleasure to-day to mention the really wonderful and cheering success the change has produced, and I refer to it at

this time to say, that we may congratulate *ourselves* as well as the School on the advantage *to us* of the "New Departure," for the work of all Medical Societies and Medical Journals is in fact, or should be, a continuation of medical instruction. This we have enjoyed in a larger degree during the last few years than ever before. The papers read before us, and very much of the published matters in the Boston Medical and Surgical Journal, have been as instructive to medical men as the Harvard lectures and demonstrations, or those of any other school, have been to students, and the articles published on "recent discoveries" and on the progress of the several branches of medical science have been of infinite value to their constant readers, each department being really worth the annual price of the Journal. And I would earnestly recommend a substantial support on the part of this Society, that the Journal may be able to carry out further plans for its improvement in the future. This is due to ourselves as well as the Journal.

Now that this Society, the Harvard Medical School, and the Boston Journal are in a more prosperous and satisfactory condition than ever before, it seems to me that *now* is a favorable time for the Harvard Faculty, and each and every member of the Massachusetts Medical Society, to further consider the unsatisfactory accommodations at North Grove street, and for this Society. The School has outgrown the one by its increase of numbers and demands, and the Society is of

that age and condition to require a home of its own. We are excluded from the Lowell Institute, a hall dear to Boston, whose walls have echoed to the voice of eloquence from poets, sages and patriots. It was a landmark in the history of Massachusetts, but it was not well suited to the wants and taste of this Society, and it has occurred to me that when the desired and needed change is made—and made it will be—and a building adapted to the wants of the school is constructed, a hall sufficiently large to seat this Society might be built over the several rooms, for the use of the School on special occasions, and for the annual and semi-annual use of the Massachusetts Medical Society, the bright, cheerful walls of which might be graced by objects which would remind us of the fact that we are members of a profession of more consequence than any other to the well-being of humanity; a place we could call our own with feelings of gratification, and occupy with enjoyment, and in which medical gentlemen from other States and from other countries who visit us could be comfortably seated.

When Harvard University shall erect a building such as it needs for its own use, this Society will put its hand down deep enough into its pocket to crown it with a hall, designed by its taste and wants. Now, gentlemen, this is not that form of charity which requires us to cast our bread upon the waters and to await a reward, but it is like dropping a quarter into the hand of a faithful waiter whose return brings you a full

plate. "The liberal soul shall be made fat," is the word of wisdom. No earnest attempt has ever been made by the Harvard Faculty, or by this Society, to make an improvement, or to accomplish an end, in which they have been unsuccessful. A few years ago we were in debt; by a well-directed effort we are now in funds. *Persistent effort* is all that is needed. See what has been recently done here in Boston, by a few energetic young men, in securing a Medical Library and a building to shelter and protect it, with its auditorium and conveniences before unknown and unheard of. No fiat went forth, but it sprang up, a sort of first fruit of energy; a fruit that takes its nourishment from manly zeal and manly enterprise. "Go thou and do likewise." If the improvements or changes spoken of are needed, or desirable even, in heaven's name why not make them? It is our own fault that we have not a hall of our own. It is our own fault that we are dependent while we possess the means of *in*dependence.

The members of the Massachusetts Medical Society have been asked by the Joint Committee of the Corporation and Overseers of Harvard College to give their opinion on the question of admitting women to the Medical School, and I presume the Committee has in keeping our several replies to the questions asked, and nothing I can say will be of the slightest value or weight at this time; but I may be permitted to say in explanation of my own answer, that my opinion is, that if women are to be admitted to medical schools, and

are to be recognized as physicians, there can be no more impropriety or objection to co-education than there is in co-practice, or co-consultation in all classes of cases and diseases subsequent to graduation. In my judgment, if the same qualifications for admission are required as for graduation, and are strictly adhered to in *all* cases, there can be no valid, no earthly reason for excluding a human being from a medical school, or from this Society, whether male or female, white or black. After Harvard has done its duty, its whole duty to a student, and has conferred a diploma upon that student, this Society should receive him or her with open arms, and *not till then*, and should aid each one as a parent would a child.

Just here I wish to say a word. As the Faculty of the School are considering the question of an increase of the term of study, and of requiring higher qualifications for admission, it should be kept in mind that no man lives, who after graduation and one year of practice, has felt that his preliminary education was needlessly good, or that his medical preparation was too prolonged or too carefully attended to. And it should also be remembered how many of us have had a life-long regret that our early education was so neglected, and our medical studies were so desultory and without exactness as to be of little use to us in commencing practice. As we would say of the flag of our Union, let it go up higher and higher, over our glorious land, where the nations of earth can see its ample folds float out on the breeze of

heaven, so let the standard of education in Massachusetts *go up* higher and higher, until the best intellects of the world shall seek her shores and her privileges.

It is well known to those who have been requested to read papers during the first day, and the first half of the second day, of our annual meetings, that they have spoken to thin houses. Not a baker's dozen of the four hundred regular physicians of Boston come in here to listen to those who have occupied their spare time for months, it may be, in searching up the literature of certain diseases and conditions, and have come here prepared to discuss matters of vital importance to the profession. This meeting is *never* full until just before dinner, as if the good things to eat are the all in all which bring us together. This is *all* wrong. Common courtesy, if nothing more, dictates a different course toward those gentlemen who, at great pains, are yearly preparing papers for this Society. These papers have been productive of good, and if they are to be continued hereafter, as we hope they will be, let the authors have a full attendance to cheer them on.

I would suggest that it might be better to discontinue the first day of our annual meeting hereafter, and instead, to hold a semi-annual meeting in October, when we could devote one day and evening wholly to the reading and discussion of papers, and any and all matters that might come up before the Society.

As the Massachusetts Medical Society does not

hold itself responsible for any opinions advanced by its orators, I am relieved of the fear of future punishment for anything I have said, and I feel a comfortable confidence that I shall receive your lenient judgment.

Those larger lights which have gone out since our last meeting, whose glowing intellects, like the zodiacal light of the departed sun, still brighten a broad horizon before us, to whom age and youth alike do homage, are now fresh in our recollections. To-day let us bow in humble, silent submission to the will of God, as words are impotent to frame a just tribute to their memories.

Twenty-five years ago to-day the number of members of this Society who graduated before 1840 was quite large, composed of hale, vigorous-looking men. One year ago to-day, when those who graduated before 1840 were requested to pass over the rostrum and into Music Hall, I with a few other stooping, grey-haired men responded, and my seat was within *three* of the head of the table. Then and there I was more than ever before impressed with the serious truth that we are all rapidly passing away. Twenty-five years from to-day will there be one left of that diminishing number?

This is *our* day, and it behooves us to ask ourselves, *here and now*, are we doing all we can? Have we been and *are* we true to ourselves? Have we been true to those who have placed their lives in our hands? Have we been and *are* we true to the Creator of heaven and earth, and the

Giver of life? Are we doing all we can to advance our noble science? Whatever may be the record of the past, let us henceforth do all we can to improve those high, moral and intellectual faculties with which an All-wise Providence, who seeth not as man seeth, hath endowed us.

CASES OF INSANITY FOLLOWING ACUTE DISEASES.

By JAMES B. AYER, M. D.
OF BOSTON.

READ JUNE 10, 1879.

CASES OF INSANITY FOLLOWING ACUTE DISEASES.

I WILL give briefly the history of two patients under my care for mental disturbance following pneumonia.

One was a hotel waiter, thirty years of age, who had a previously healthy record and without hereditary tendency to insanity.

The lower lobe of his right lung was consolidated, but the fever was mild—the highest temperature noted was 102.6°, the pulse at that time being 109, and respiration 26. At the crisis, which took place on the sixth day, the patient was delirious for a few hours. The delirium entirely disappeared and resolution went on so rapidly that, at the end of thirty-six hours, there were but few traces of local trouble remaining. The temperature had fallen to 98.8°, pulse 84, and respiration 16.

At this time his face became suddenly flushed and great excitement followed. He insisted upon putting on his clothes, and succeeded in tearing himself away from his friends and running into the next room, declaring that there was a man there whom it was his duty to see.

With difficulty his friends returned him to bed. He continued restless and noisy, full of delusions and hallucinations of sight and hearing.

He had also delusions regarding food and medicine, and took nothing without a great deal of urging.

He escaped a second time from his attendants, ran to the bureau and took out a razor which he carried to his overcoat and laid in one of his pockets.

Strangers were called in to take care of him, as he was excited by the presence of his wife and relatives, and constantly threatened them with violence.

Bromide of potash in scruple doses was given every hour or two—also three ten grain doses of chloral; yet thirty-eight hours elapsed before the patient fell into a sound sleep.

He woke free from delusions, and with a sound mind. He made a rapid recovery, and has been well since.

The second patient—a lady, forty-four years of age—had worried a great deal during the preceding year, and had over-tasked her mind by hard study. Her parents and grand-parents had been free from mental disease.

She passed through a very mild attack of pneumonia (the lower part of the right lower lobe being involved), which culminated on the fifth day. Although the fever was mild, it was attended by considerable nervous disturbance.

On the second day after the crisis the head became suddenly congested and the patient became excited. Slight traces only of the lung trouble were found remaining. The pulse was generally between seventy and ninety.

At first excitement was controlled by doses of bromide of potash (gr. x.—xx.), given every hour, but soon this remedy lost its effect. Chloral proved of still less service. Finally morphia seemed required, and was given twice subcutaneously ($\frac{9}{30}$ and $\frac{1}{2}$ grain doses), on each occasion followed by several hours of sleep.

The day following the outbreak the catamenia appeared, and the flow continued a couple of days.

During the first week of excitement most of the nourishment was given through the feeding-tube.

Since that time food and iron mixture have been taken quite regularly, and of late but little sedative medicine has been required. Now, at the end of twelve weeks, we can notice marked improvement in the patient's *physical* condition, but in regard to the *mental* state the prognosis is

uncertain, delusions of all kinds with hallucinations and occasional periods of excitement remaining.

Our first case is a good example of the *transitory form* of post-febrile insanity described by Weber,[1] who reports several cases of from eight to forty-eight hours' duration, following various acute diseases. It is now a well recognized form of insanity.

The history of the second case was identical in most points with that of the first mentioned, but the pre-existing causes, together with the constitutional disturbance attending the menopause, have given it a character much more grave.

These are typical cases of insanity following and caused by an acute disease which both poisoned the blood and exhausted the patient. These cases of post-febrile insanity could not be mistaken for delirium.

Whether or no a *specific difference* exists between mania and delirium it will not be necessary to discuss. Dr. Ray and others, who insist that the line *can* be drawn between them, admit that mental aberrations and some of the physical symptoms of mania resemble closely those of delirium.

But fortunately there is a well marked *clinical distinction* which will always aid us. It is insisted upon by Dr. Clouston, whom I will quote.[2] "The delirium that so often complicates fevers is wonderfully like the maniacal symptoms of many kinds of insanity, and unquestionably the general state of the brain cells must be much the same in the two conditions. *Yet I never knew an attack of inflammatory or feverish delirium to run on without an intermission into an attack of maniacal excitement, however predisposed the patient might be to insanity.*"

If this distinction were well borne in mind, patients delirious from typhoid fever, or from cerebro-spinal and other

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[1] Med. Chirurg. Transac., vol. xlviii.

[2] Morisonian Lectures for 1873, on Insanity—Journal of Mental Science.

forms of meningitis, would not be sent to asylums for the insane—a mistake occasionally made.

Griesinger states that a German psychologist, delirious from typhus (typhoid?) fever, was sent to an asylum as insane by one of his colleagues.

Regarding the frequency of insanity following acute disease:

The *transitory form* of post-febrile insanity is rare—there are very few cases on record.

Cases of the more grave character are found in all asylums for the insane, but have been little studied.

Dr. Clouston[1] has gone over the records of a thousand cases at the Carlisle Asylum, and found ten (one per cent.) of post-febrile insanity. He states that he is not acquainted with fuller statistics upon the subject. Insanity following catarrhal and pulmonary diseases, is not classified in his tables.

Four of the cases followed	Scarlatina.
Two " " " "	Variola.
One " " " "	Typhus.
One " " " "	Typhoid.
One " " " "	Intermittent.
One was	Uncertain.

Two only recovered (one case following scarlatina and the post-intermittent case); the remaining eight became hopelessly demented or melancholic. Post-febrile insanity he regards as generally incurable.

Hoping that the comparison of a large number of cases would show more favorable results, I searched Asylum reports. Usually "Insanity following Acute Diseases" was tabulated under the head of "Insanity from Ill Health." However, I found 37,440 cases tabulated in this respect, of which 780—a trifle more than two per cent.—followed acute disease. Two-thirds of these cases followed "fevers"—principally typhoid.

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[1] Morisonian Lectures on Insanity, for 1873.

Regarding recovery the statistics were very meagre. Of the few cases reported, 36 per cent. recovered.

Through the kind permission of Dr. Jelly, who has also given me valuable aid, I have been able to consult the records of the McLean Asylum, and am prepared to make the following report:

From the records for forty-three years, embracing 5116 cases, I have tabulated sixty-two cases, following and probably caused by acute disease—a little more than one per cent.—but several cases were omitted from the table on account of deficient history which probably deserved to be enumerated.

Between the English statistics and ours, both in the order of frequency of the predisposing diseases and in the results, there is a very marked difference.

There were cases of insanity from—

		Well.	Improv'd.	Total.	Not improv'd.	Died.	Total.
"Fever" (principally typhoid),	27	16	4	20	4	3	7
Erysipelas	7	2	2	4	2	1	3
Intermittent Fever	4	0	1	1	1	2	3
Variola and Varioloid	4	3	0	3	1	0	1
Scarlatina	2	0	0	0	2	0	2
Yellow Fever	1	0	1	1	0	0	0
Acute Catarrhal Affections	7	3	2	5	0	2	2
Pneumonia	3	1	0	1	1	1	2
Pleurisy	3	1	1	2	0	1	1
Throat Affection (severe)	1	0	0	0	1	0	1
Dysentery	3	1	0	1	2	0	2
	62	27	11	38	14	10	24

A total of 62 cases, of which number 27 (43.5 per cent.) recovered; 11 (17.8 per cent.) were removed, more or less improved; 14 (22.6 per cent.) showed no sign of improvement; and 10 (16.1 per cent.) died.

During the 43 years the average of recoveries of *all the patients admitted to the Asylum* was $44\frac{1}{3}$ per cent.

To compare post-febrile cases with a form of insanity which is considered favorable to recovery, I have analyzed

sixty-seven cases of puerperal insanity, with the following results:

Of puerperal cases 39 per cent. recovered, and 25 per cent. were improved when taken away from the asylum.

Of post-febrile cases 43½ per cent. recovered, and 17¾ per cent. were improved.

Favorable puerperal cases recovered in an average of one hundred and eighty-seven days. Post-febrile cases in one hundred and ninety-five days.

Of the cases in which mention is made in regard to hereditary tendency to insanity, it was found that a little more than half of the number were *non*-hereditary.

Hereditary cases progressed as favorably as those in which there was no family taint.

Fever Cases were the most numerous, and were very favorable—sixteen out of twenty-seven making a good recovery. As in all post-febrile cases there were often other predisposing causes at work, but the acute disease was the important factor. Insanity generally appeared in the advanced convalescence from fever. Mania was the most common form, though all species of insanity were noticed. Delirium was frequently present when the fever was at its height, but disappeared before insanity was observed. The average duration of favorable cases was two hundred and thirty-four days.

Contrary to the experience of Griesinger, who states that chronic insanity following typhoid fever has *always* an unfavorable prognosis, of the five cases in our table, in which insanity continued upwards of one year, two recovered.

Erysipelatous cases generally developed mental disturbance in advanced convalescence. Facial erysipelas was the usual form. The average duration of the two favorable cases was one hundred and twelve days.

None of the *intermittent cases* were marked "well." One case was marked "tertian intermittent"—the type of the

other cases was not mentioned. Melancholia was the usual form of mental disease.

I found the record of one patient who had been admitted for the third attack of mental derangement, *not* connected with acute disease, in whom the first and second attacks followed intermittent fever for which she was treated in another institution.

Three cases of *Insanity following varioloid* are mentioned, all of which recovered in an average of one hundred and sixty-seven days. *The case following variola* remained in a "flighty state" when removed from the asylum. Insanity following variola is said to be most intractable.

Neither of the *scarlet fever cases* recovered. English statistics give this disease a prominence in the causation of insanity. Recovery is rarely found in this class of cases.

The cases grouped under the head of "*catarrhal*" were generally attributed to a "cold" from exposure to severe or changeable weather. Several cases in which suppressed menstruation was added to the catarrhal causes were considered metastatic in character and were not enumerated. Mania was the prevalent form. The average duration of favorable cases was three hundred and forty-three days.

Six cases followed *pneumonia and pleurisy*, of which two recovered: one in forty days, the other in three months. The former showed signs of mental disturbance ten days after the crisis—the date of the appearance of mental symptoms in the latter case is not given. One of the cases of insanity following pneumonia had the record of a similar attack following measles five years previously.

The case following dysentery, which recovered, took the form of mild mania, and in seven and one-half weeks was well.

I found considerable difficulty in selecting cases for my tables. Frequently I found histories of patients troubled with dyspeptic or typhoid symptoms, or symptoms of "slow fever," which soon disappeared, but left the mind not im-

proved. Cases of this kind I regarded as of cerebral character from the outset.

I cannot give a better illustration of this doubtful class of cases, than by quoting from Dr. Ray's description of the insanity of George the Third. He says, "The particulars of the King's first attack in 1765 (when twenty-seven years of age), was studiously concealed by his family, and its true character was not generally known at the time. Shortly before the attack an eruption on the face, which had troubled him for some years, had so entirely disappeared that it was supposed he had applied external remedies to repel it. This was followed by considerable cough and fever, and then by mental disturbance. In the course of a few weeks he completely recovered."

It is impossible, in this case, to make a true estimate of the importance of the "cough and fever" in causing insanity.

In the asylum records I found several interesting cases of *mania intercurrent with acute diseases*—cases of acute tuberculosis, acute Bright's disease, and abscess of the liver, where insanity was developed in the course of the disease and accompanied the patient to the end.

Insanity following brain congestion and meningitis (due generally to sunstroke or injuries) I have not included in the list, although there were twenty-two cases recorded in which there seemed to be a distinct intermission between the delirium of inflammation and the subsequent mental affection. Thirty-two per cent. of these cases made a good recovery.

Rheumatic cases were likewise omitted, as rheumatic insanity is held to be a distinct form of mental disease. In some cases the metastasis from the joints to the brain was well marked. Of ten cases of rheumatic insanity, thirty per cent. recovered.

In children, nervous and brain diseases following fevers are precisely analogous to post-febrile insanity in the adult.

I recall the case of an infant three months old, under

the care of Dr. James Ayer for croupous pneumonia of the right lower lobe, in which the crisis took place on the sixth day, and the child was apparently doing well, although the fever had been severe and was accompanied by great dyspnœa. On the day following the crisis there were symptoms of brain congestion, which, two days later, became alarming. The temperature had at this time fallen to 101.2°. During the following seven days the morning temperature, never higher than 101.6°, gradually descended to normal. During the whole time there was intense heat of the head, requiring constant application of cold. Most of the symptoms of acute hydrocephalus were present. At the end of this time the cerebral symptoms began rapidly to disappear, and resolution of the consolidated lung, which had been interrupted, now progressed steadily until completed.

This history is not that of delirium, but of cerebral irritation occurring in the decline of an acute disease.

Finally, we cannot too carefully watch the convalescence of our patients recovering from acute diseases, remembering that insanity may follow the mildest cases, and that it may frequently appear in advanced convalescence when the patient is considered nearly well. Often I found in the records that mental derangement was attributed to the patients' "getting up too soon" after an acute disease.

If the slightest symptom of brain congestion appears, we should, if possible, ward it off by appropriate treatment.

As an unhealthy state of the blood is an important agent in producing mental disturbance, the administration of iron tonics early in convalescence is indicated.

INSANE DRUNKARDS.

By THEO. W. FISHER, M.D.
OF BOSTON.

READ JUNE 11, 1879.

INSANE DRUNKARDS.

The object of this paper is to call attention once more to the relations of a certain form of mental disease to the law and to the medical profession. Those insane persons, who may for convenience be called insane drunkards, hold a somewhat ill-defined place in the social order. They are regarded by most authorities in lunacy, as insane; while under the law they are vicious or criminal, according to circumstances. The difficulties in dealing with them are great, on account of this difference in point of view on the part of those into whose hands their condition brings them.

The term Insane Drunkards should, in strictness, be applied only to those persons made insane by drink. Of this class there are several varieties: (1) Intoxicated persons who exhibit, in some cases, the phenomena of transient madness. (2) Cases of Delirium Tremens—it is only the brevity and self-limited nature of these two forms which remove them from the category of true insanity. (3) Patients with *mania a potu*, or acute mania from the immediate effects of drink. (4) Chronic mania of alcoholism, characterized by suspicions, apprehensions and delusions of plots to kill, pursue or persecute, with hallucinations of hearing in many cases. (5) Dementia of alcoholism, in which a condition resembling senile dementia is induced by drink. Besides these varieties, more or less peculiar to insanity from drink, there is scarcely any form of mental disease which may not in some cases be due to the abuse of alcohol as an exciting cause. General paresis, for instance, finds

when drunk stole nothing but Bibles, and was transported for the seventh act of Bible stealing; another stole spades only. One woman always stole shawls; another, shoes. A man who was transported for his seventh theft, six times out of the seven stole a tub. A woman committed one hundred and thirty-seven times in twenty years, invariably smashed glass when drunk. I have noticed this uniformity in many cases, not only of drunkenness, but of insanity. A woman confined for many years continuously in an asylum, was apparently sane with the exception of short outbreaks of excitement, lasting a day or two, in which she smashed all the glass within her reach.

It does not seem unreasonable, therefore, to suppose that drink may produce, in some cases, simply a mania for getting drunk and nothing more. If it is impossible to prove the insane character of the habit in certain cases, it is equally impossible to disprove it, although to the experienced alienist doubt will seldom occur. Dr. Bucknill says that in all cases of moral monomania a group of symptoms must be estimated in their collective significance, and that it would never do to argue that a man is mad because he has stolen, and has stolen because he is mad. The comparison is not quite a fair one, because in dipsomania there are the immediate as well as remote effects of alcoholic poisoning to complicate the case. I think it may sometimes with truth be said, that a man is insane because he has been drinking—and that he drank because he was insane. There are certainly cases of kleptomania and of other forms of moral monomania, though no doubt rare ones, in which no symptoms of insanity can be demonstrated beyond the peculiarities of the act itself.

Dr. Bucknill refers to Dr. Anstie's description of oinomania (Reynold's System of Medicine, p. 160, vol. 2) as conveying his own views, and depicting what is, as he says, "a veritable and mostly incurable form of insanity." Dr. Anstie says of oinomania, "It is in truth a variety of con-

stitutional insanity rather than of alcoholic disease. . . . The sufferers from oinomania are, I believe, usually descended from families in which insanity, and often insanity of the same type, is hereditary. Patients of this class very commonly, though not always, display their tendencies early in life. . . . It should be clearly understood that the term oinomania, which is often applied to the disease, very imperfectly describes the condition of the victims. Closer investigation of their mental state will usually disclose the fact that they are liable to periodical recurrences of causeless exultation and bursts of self-confidence on trifling occasions. . . . Under the influence, partly of an uncontrollable impulse, and partly of intoxication, they will perform truly insane acts. . . . After lasting a few days, a week, sometimes even a month or six weeks, the attack seems to wear itself out. . . . The condition of these patients in the intervals between these attacks is very different from that of the ordinary confirmed sot. Very often they live perfectly sober and chaste lives, and are even remarkable for active and intelligent management of their affairs. But this condition only lasts for two or three months, or six months, or a year, and then the old symptoms recur, and the patient is uncontrollably hurried into excesses of the most violent kind."

In this description heredity and periodicity are the chief distinguishing features, since in the attack it is practically quite difficult to decide which acts are due to insane impulse and which to intoxication. Though an expert might be satisfied that certain acts were truly insane acts, he might be at a loss to give his reasons, and would utterly fail to demonstrate the correctness of his opinion. But periodicity is not a constant symptom. The intervals are not always marked by perfect sobriety and good behavior. Many writers describe a chronic form of dipsomania, in which the desire for drink is continuous. Neither is heredity always

traceable in cases having all the other symptoms of the group. If we have, as Dr. Bucknill admits, a vice passing into a disease, it does not seem unlikely that it *may* do so without the aid of hereditary weakness of constitution.

It is of little consequence, if the disease is admitted to exist, whether we believe it to be caused by drink or by drink *plus* heredity. Dr. Anstie states that habitual drunkenness in one generation may become dipsomania in the next. We presume that the laws which govern hereditary insanity generally, will apply to this form of it. If so, it may arise *de novo*, from sufficiently powerful exciting causes, or it may be traced to constitutional weakness derived from insane, consumptive, neurotic or drunken ancestors.

Dr. Bucknill thinks the disease is extremely rare. In the course of a long experience he has never seen an undoubted case of dipsomania. This seems an unnecessary refinement in the use of terms, since in any pure case of moral monomania, if such a case ever existed, the evidence would be open to some suspicion, and when other symptoms concurred with the drink craving, it would cease to be a case of dipsomania pure and simple. It is well known that a somewhat numerous class of inebriates exist, in whom there is good reason to believe that disease and not vice is at the origin and foundation of the habit. We must also in some way learn, how to deal practically with cases of vice passing into disease without any absolute test to show on which side of the line an obscure case should be placed.

The belief in dipsomania as a definite form of insanity, however caused, is universal as far as I know among authorities in lunacy. It is so with all the authors whose books I find conveniently at hand. Dr. Schüle, in the last volume of Ziemssen's Cyclopædia (Handbuch der Geistes krankheiten) classifies dipsomania in his third group of motor anomalies, or pathological acts, with suicide, homicide, kleptomania, incendiarism, and the acts of the morally insane.

A reviewer of Dr. Schüle's book (Jour. Men. Sci., Jan. 1879, p. 657) says he closely follows Dr. Krafft-Ebing, in his views of dipsomania and its cogeners, in attributing them to organic motivity, symptomatic of some degeneration inherited or acquired in the brain. Dr. George M. Beard discusses this theory in his recent paper entitled, "Are Inebriates Automatons?" (Quarterly Journal of Inebriety, Jan. 1879.)

Griesinger regards intermittent drunkenness as often a symptom or evidence of periodic insanity. The drunkenness generally attains the proportions of an actual maniacal attack, from which the patient may recover quickly or slowly.

M. Tardieu (Etude Médico-Légale sur La Folie, 1872, p. 152), while objecting to the views of Leuret and Falret, Sen., which too nearly assimilate drunkenness and insanity, describes a condition of moral degradation the result of habitual inebriety, out of which arise impulsive acts which he considers absolutely identical with those of epileptic mania, and therefore automatic. He regards the indifference of inebriates to the consequences of their acts as strong proof of their irresponsible nature.

J. H. Balfour Browne, a lawyer, and therefore less likely to be prejudiced in favor of the disease theory, classes dipsomania as a partial moral mania (Med. Jurisprudence of Insan., 1876, p. 327). He divides it into acute, recurrent and chronic dipsomania. He quotes with commendation Sir. Robert Christison's practical rules for distinguishing inebriety from insanity, who says, "When in any particular case the avidity for strong liquors has reached such a height as to cease to be controllable by every plain and powerful moral and religious consideration, to overwhelm the mind in frequent or continued intoxication, and to occasion danger or actual damage to one's affairs or family, or both, it ought to be regarded as disease and treated as insanity."

Careful reading of these rules will show that they are far more liberal and inclusive than any usage hereabouts.

Dr. Bucknill in his standard work on insanity (Bucknill and Tuke on Insanity, 3d ed.)[1], considers dipsomania to be a form of emotional or moral insanity. He says "the prominent nature of this propensity is its *irresistibility*." He quotes Dr. Hutcheson, one of the first to draw attention to this disease, who says, the periodic form is more common than the acute, but the chronic form is most frequent of all. The causes enumerated are "injuries to the head, disease of the heart, hereditary predisposition and *intemperance*." Dr. Hutcheson had seen only one recovery, and that was after two years residence in an asylum.

Dr. Maudsley lays stress on what is sometimes forgotten in our search for hereditary causes, that phthisis is an almost equally important factor in the mental decay of a family with insanity, and that hereditary drunkenness, phthisis and insanity, are interchangeable as hereditary causes and effects. (Dis. of Mind, pp. 204, 215, 228.)

Dr. Sankey, following the example of many writers, traces the close parallel between the gradual degeneration of brain and degradation of mind in the drunkard and the insane person. These processes exactly correspond in some cases, and the cerebral changes are almost identical. (Lectures, &c., p. 210.)

Dr. Blandford very carefully compares these similar cerebral conditions. (Insanity and its Treatment, p. 80.) He does not, however, class dipsomania either as a monomania or a moral mania. He thinks "the unsoundness of mind which exists in connection with habitual drinking, must be estimated like unsoundness in any other individual." (Ibid., p. 437.) Notwithstanding this practical observation, he is obliged by his experience to describe the familiar form of

[1] In the 4th edition, just published, Dr. Bucknill seems to have retaken that middle ground which certain statements in his book on "Habitual Drunkenness &c." implied an intention to abandon.

mental disease which we are considering. He regards persons of inherited or acquired weak mental constitution who are impelled to periodical drinking, by which indulgence the mental impairment is increased and perpetuated, as insane.

Dr. Ray follows Esquirol in classing dipsomania as a partial moral mania, and gives several striking examples of the disease, as observed by Esquirol and himself. (Med. Jurispru. of Insan., p. 543.) What he says of the legal relations of insane drunkards, we shall mention later.

No doubt continued search would yield similar results. There is a wide spread interest in the subject, and much has been and is about to be published on this question. As I write, an address comes to hand (Brit. Med. Jour., Nov. 16, 1878) by Dr. Gilchrist, President of a Branch Society of the Brit. Med. Assoc., on "Dipsomania; its Nature, Treatment, and Results." He views it as an hereditary neurosis, marked by periodical drinking, loss of self-control, with intellectual and moral degeneracy. He thinks it seldom results from vicious drinking *alone*.

The practical side of the question presents as many difficulties as the theoretical, and for similar reasons. The want of an absolute test of mental unsoundness in any case, and the close resemblance of vicious indulgence and the same habit arising from mental weakness, makes a safe discrimination exceedingly difficult in certain border-line cases. Then, the indiscriminate application of the English common law to all kinds of drunkards, sane and insane, has prevented a very near approach to abstract justice. The principle that all intoxicated persons are responsible for their acts, stands directly in the way of any restraint which might otherwise be exercised to prevent deeds of violence. Great leniency is and always has been shown towards the act of getting drunk, in which, it seems to me, lies all the guilt which can fairly be imputed to the drunkard. When

intoxicated, his acts are in a great measure automatic. If he gets drunk deliberately, with full power of self-control, he is responsible for the risk he runs of doing mischief, as much as the engineer who sends his locomotive down the track alone, not knowing or caring whom or what it may encounter. Such a drunkard should be punished by long imprisonment, and his estate held for all damages. If, however, he is a dipsomaniac, having never had or having lost his power of self-control, he should be restrained as such for long periods, or until it could be demonstrated by occasional trial that he was safe to be at large. When the law lightly punishes the drunkard by a fine and costs, or a month's confinement, it really condones his acts, and takes upon itself the risk of what may happen. It is then doubly unjust, in that it excuses the act wherein lies the crime, and punishes with terrible severity any chance act of violence the irresponsible drunken man may commit. This mistaken leniency towards the drunkard, no doubt, grew out of the custom, now happily disappearing, of drunkenness in high places. It would not do for a judge who was put to bed drunk at midnight, to severely sentence the drunken footman who helped him home; neither should it be thought just to hang the delirious, drunken homicide, who has been led by this state of law and society to think getting drunk a very trivial offence. Society and the law are responsible for the *prevention* of acts of drunken violence, as much as for their punishment.

That the English law is still applied in all its severity, in this country, the following case will show (*Boston Medical and Surgical Journal*, Nov. 21, 1878). The recent trial of Kennedy, the wife-murderer, in Chicago, furnishes a novel medico-legal development. The plea of insanity was entered by the defence. The medical experts, Drs. Lyman and Brower, swore that they believed the man then insane, and that in all likelihood he was insane at the time of the

homicide. It was in evidence that the defendant had frequently taken spirits of camphor, in considerable quantity, to drive away, as he said, an evil spirit that dogged him. The judge charged that if the defendant was insane at the time of the homicide, he was to be acquitted, unless the insanity was due to the use of alcohol, in which case the verdict must be murder in the first degree. He did not say drunkenness, which seems not to have been proved, but insanity. The jury were also to state whether the evidence had established the present insanity of the prisoner. The verdict was "murder in the first degree"; that the punishment should be hanging; and that the defendant at the time of trial was insane. As a sequel, the culprit, the next night after his trial, committed suicide in jail "by cutting his throat with a razor he had found in the corridor."

Dr. Ray says (Medical Jurisprudence of Insanity, p. 580), the decision of Mr. Justice Story, in the case of Commonwealth *vs.* Drew, has settled the law concerning homicides by insane drunkards in this country. Judge Story decided that the prisoner having committed the homicide while suffering from delirium tremens, should be exonerated on the ground that he had drunk nothing during the attack; and that insanity, whose remote cause, even as little remote as three days, was habitual drunkenness, was a sufficient excuse for crime. If, however, the prisoner had been in the condition of *mania a potu*, and had slept more or less, and continued to drink during the attack, this excuse would not avail, although he might have been equally insane and irresponsible. It is possible for a person to be insane and intoxicated at the same time, but this state the law does not seem to take into account.

In my own experience, courts and juries in New England generally find some way to exempt obviously insane drunkards from the full penalty of the law in capital cases, but not by yielding the principle of responsibility. Sometimes

the prisoner is allowed to plead guilty of murder in the second degree, as in the following case. Peter Mahoney, of South Boston, had been struck on the head in a drunken quarrel, and lay in wait a short time after to attack his assailant, as is supposed, but killed by mistake a person entirely unknown to him. I was requested to examine him, with the late Dr. Tyler, by the Attorney General. I learned that he had received twenty-seven years previously a severe blow on the head from a falling plank, there being at the time of examination a decided enlargement on the left side at the point struck. In the army he was thrown from his horse and stunned. He had been for years very sensitive to the effects of heat. He had a purulent discharge from the left ear, with pain extending up towards the old wound, with deafness and subjective noises. All the head symptoms were aggravated by liquor which he took in large quantities periodically. In the intervals he was sober, industrious and of a peaceable disposition; but when drunk, violent, and dangerous. Had been sent to Deer Island for dangerous assaults, and had often been frenzied by liquor, in which state he had sometimes delusions of fighting with imaginary enemies. His family left him at such times, and secreted themselves till the attack had passed. He usually forgot what had taken place, and inquired particularly as to his conduct. Had expressed the opinion that he ought to be shut up, lest he should do serious injury to those around him. It was our opinion, submitted in writing, that at the time of the homicide he was in a semi-conscious, delirious and irresponsible state of mind, due to the effect of liquor on a diseased brain, and that he had no recollection of events immediately preceding or for some time after the homicide. He was allowed to plead guilty of murder in the second degree.

Sometimes juries bring in a similar verdict in spite of evidence to show either insanity on the one hand or malice and premeditation on the other. By such a compromise, as

in the State of Maine vs. Bernard Little, they meet the requirements of law, and satisfy their own consciences, at the expense of consistency. The mental state of insane drunkards is not always carefully investigated, as I think it should be, and it is not unlikely that they occasionally suffer the extreme penalty of the law, for acts as automatic as those of epileptic fury.

The protection of society from the violent acts of drunkards, sane and insane, is a matter of vast importance when we consider the frequency of such occurrences. As physician to the Board of Directors of Public Institutions in Boston, it falls to my lot to examine annually, not only many insane persons, but also all the delirious or insane drunkards who are daily arrested by the police. To properly classify and dispose of them, is not always an easy task, considering the almost uniform lack of reliable information. The cases are distributed to the city and state almshouses or lunatic hospitals, according to their apparent condition. There is no provision any where for the treatment of delirium tremens but in the alms house at Deer Island or Tewksbury. Cases of mania from drink, if likely to prove of short duration, are sent to the former place for observation, subsequently to be transferred to an asylum if the permanence of the insane condition seems to warrant it. A few cases, never more than half a dozen yearly, have proved on careful investigation to warrant the diagnosis of dipsomania. These have been sent, usually by their own request or acquiescence, to the insane hospital. The late Judge Ames, of the Suffolk Co. Probate Court, was in the habit of committing those who demanded a hearing, if the evidence showed that any hereditary or constitutional mental weakness existed,—or, as he phrased it, "any mental disease apart from the *immediate* effects of drink."

It is not likely that all who might fairly be classed as dipsomaniacs come under my observation. Those drunkards

not evidently insane or delirous, are committed for short periods to Deer Island by the municipal courts, or are fined. Most of the recognized cases of dipsomania are of fair social standing, and have friends interested in them and aware of their personal peculiarities and family history. The few cases occurring soon come to be well known to the authorities, as they constantly reappear on the scene, and produce by repetition the numerical effect of a stage army. I will mention briefly a single case of this class. Mr. A., now 48 years of age, is a man of good physical development and fair health. His mother was melancholy and suicidal. He has always been an efficient salesman, commanding a good salary when sober. Of his early drinking habits I am uninformed, but at the age of twenty-seven he was admitted to the Boston Lunatic Hospital for an attack of drinking. Since 1858, he has been committed to the insane asylum seventeen times, and to Deer Island four times, an average of once a year. The longest period of detention was two hundred and twenty-five days, the shortest, thirteen; the average, eighty-three. The necessity of supporting a family required his discharge after short terms of seclusion. The longest interval was four years, during which time he was not arrested. This statement does not represent the exact number or duration of his attacks, but is an approximation. Each attack was accompanied by an exaltation of feeling, and a tendency to extravagant statements amounting to transient delusion. There were at times apparently insane acts, such as preaching at the corners of the streets. In the early part of his career he would usually hire a horse and buggy, though he never drove at other times, and drive out to the Lunatic Hospital to make a friendly call. Sometimes he could be persuaded to remain; at others, he would go away, only to be regularly committed the next day. All his symptoms, mental and nervous, disappeared after a day or two in the hospital. The only evidence of excitement on

several occasions was a loud crowing in the middle of the night. At one admission, he was found to be in a condition of extreme depression. He had not been drinking, and had drank nothing for six months previously. He nearly lost his life this time from the exhaustion of melancholia, with carbuncle and *fistula in ano*.

I have observed frequently that an inherited tendency to melancholia may lead to dipsomania. The case of a prominent merchant of Boston, who committed suicide, was a curious combination of drink-craving and melancholy. Of two brothers, both in the same hospital, one was melancholy, the other a dipsomaniac, and both voluntarily secluded. The same causes which in one patient induce melancholia, in another induce an attack of drinking. In fact, cerebral exhaustion, however caused, more often leads to irresistible drink-craving than is generally supposed; and in some cases the patient's statements of his own mental and nervous condition are above suspicion. It has always been easier to see dipsomania when it occurs in persons of intelligence and refinement, especially in women of good character, than in the opposite class and sex.

Few dipsomaniacs have the moral strength to remain voluntarily in an asylum, though many consent to go there. They are often, as Dr. Clouston calls them, "facile, sensual, irresolute liars, devoid of the rudiments of conscience, self-control or true affection." I might give many detailed accounts of individuals of this class, but forbear. It has always been difficult to get an insane drunkard safely and legally committed to a hospital for the insane against his will. These patients seldom have delirium tremens, and in fact sometimes are so skilful as never to be seen drunk in public. They cannot be sentenced as common drunkards, since they maintain an appearance of sobriety which deceives strangers, while their immediate friends and relatives are so well aware of the morbid nature of the habit that they are

unwilling or afraid to testify against them. It is a common threat of the insane drunkard to his wife, "If you have me shut up, I will kill you." Besides, a month at Deer Island is not worth the trouble and risk of the attempt. If able to pay, and willing to go, such a patient might be kept for a short time in the Washingtonian Home, or some similar establishment on the voluntary plan. But this kind of temporary detention only restores and strengthens the confirmed inebriate for renewed indulgence. No doubt some cases are *reformed* by the Christian influences of these establishments, but few dipsomaniacs are *cured* by moral means. The disease has a deep root in the nervous constitution of the individual, which cannot be eradicated in this way.

That this difficulty in disposing of insane drundards exists elsewhere, is shown in the biography of a Frenchman of this class, in a recent number of the *Archives Générales*. This person was repeatedly committed for drunkenness, larceny, acts of violence, desertion, vagabondage and insanity, to many different public institutions, including asylums for the insane. His general condition remaining the same, he was dealt with according to the particular kind of misconduct manifested at the time of his arrest. Nations differ in their methods of dealing with the confirmed inebriate. The English and American theory of complete responsibility for criminal acts, which strange to say does not extend to their civil acts, has never prevailed on the continent except in France; and that country has recently taken civil rights from the drunkard. It seems rather inconsistent to hold, as we do, that a drunkard may commit a crime but cannot make a contract; and also that, under our laws, a drunkard may be put under guardianship as a spendthrift, and his estate taken from him, when he cannot be restrained for his own good or the safety of his family. His property is held of more consequence than his own life or the lives of his family.

Great as is the task of getting the insane drunkard committed to an insane hospital, the difficulty in keeping him is still greater. This arises from the transient character of the prominent symptoms, which are only brought out under the paralyzing influence of alcohol. As one writer has said, the dipsomaniac is only sane while in the hospital. Although in his extremity, under arrest for disturbance of the peace, and perhaps suffering mentally and physically from the immediate effects of drink, he acquiesces in his commitment, in a surprisingly short time he is on his feet, under perfect control, looking around for a lawyer to help him swear that his confused recollection of the circumstances of his commitment is the true version. No hospital can hold him a moment against his legal protest, and he is discharged as a matter of course. Some superintendents having an active sympathy for such unfortunates, and an appreciation of their mental unsoundness, will make every effort to keep them long enough to effect some improvement. There is no doubt, that with proper management and prolonged detention, a few of these patients may recover. Others, either ignoring the existence of insanity in the particular case, or annoyed at the trouble dipsomaniacs always give, advise or permit their immediate discharge.

This want of uniformity in theory and practice reacts unfavorably on the committing magistrate, who naturally feels the uselessness of committing patients whose speedy discharge is probable, and is led to doubt the presence of mental disease in all cases of insanity, of whatever form, if complicated with drinking. A single adverse decision is enough to deter physicians from again certifying in a similar case. The final result is that certain families are at once in danger of personal violence, and perhaps of suits "on speculation," or in revenge for past commitments, in which the certifying physicians are sure to be included. An insane drunkard, with homicidal propensities, is more independent of legal restraint than any other person in the community.

The attacks of drinking, in true dipsomania, have many of the features of a transient mania. The term recurrent mania from drink, would apply in most cases, and commitment to an asylum would be warranted by this condition, independently of any theory of its causation. The same trouble in retaining the patient would, however, exist, unless some murderous assault had been committed; in which case, the fear of a criminal prosecution might have a restraining effect. In the absence of actual homicidal violence, no considerations of the patient's welfare, of the security of his property, or the safety of his family, if they attempted to thwart his insane purposes would be likely to prevail.

The public is shocked at each new victim of insane violence, and shudders at the unending procession of suicides, but is strangely insensitive to the existence of *potential* homicides and suicides, who meet us at every turn. We store our explosives in remote and secure places, under the strict ban of the law, but cherish in our midst the insane drunkard sure to become explosive at every debauch. This tendency to become homicidal is often well known to the drunkard's family, to the police, and to the bar-keeper who sells the dangerous excitant; and yet nothing can be done to prevent, but everything to punish the inevitable and foreseen act of violence.

In a recent case, it required a ripening process of three months before the patient could be put under restraint. In the meantime, he made several dangerous assaults, and twice broke into his brother's house. He always had a pistol conveniently at hand, and was constantly threatening to kill, or prosecute, all who interfered with his right to do as he pleased. He was persuaded to enter the Washingtonian Home, and remained a short time, going and coming at will. He was sent to Deer Island on one occasion when there appeared to be a slight delirium, but he was released in two or three days apparently rational, and threatening to appeal

to the law, which really was on his side. He found some one willing to marry him, in a comparatively calm interval, but soon left home after assaulting his wife, and was arrested in New York for assault and sent to Boston. During all this time, he never appeared to be drunk in the ordinary sense, but was in a state of deceptive calm, or suppressed excitement, without delusion, and able to assume a plausible manner at any time. The police and the parties assaulted would not complain of him, because they believed him insane —and perhaps because they feared his threatened revenge, at the end of the brief term of commitment he might have been sentenced to. His family were in the same fear, and did not want him punished but restrained for a long period. He finally went to the Danvers Hospital, by his own consent, and remained several months.

It ought to be possible, in view of this and similar cases, to devise some means of protecting the families of insane drunkards. City and state commissions have investigated the subject, and agree with the universal opinion of those best informed, that long periods of seclusion are absolutely necessary. Petitioners in favor of an Inebriate Asylum on the compulsory plan, have usually had leave to withdraw in this State. Our legislature has relieved its conscience by state aid to the Washingtonian Home, but has never even gone so far as to legalize the voluntary seclusion of an inebriate by agreement for a definite time. This latter system is the only result of the long agitation in England, the compulsory feature of the Habitual Drunkard's Bill having been eliminated. The Philadelphia County Medical Society, undeterred by failure in other quarters, have memorialized the legislature of Pennsylvania for a law allowing the commitment of inebriates to special asylums for periods of not less than four months (*New York Medical Record*, March 8, 1879). I am informed by Dr. Russell, a trustee of the Hartford Retreat, that the law in Connecticut allowing

commitments to the inebriate asylum for terms of not more than three years, has proved a partial failure. The arrest of escaped inebriates has been prevented by interested friends, and officers have not dared to act, because lawyers there, as elsewhere, can be found to interpose legal obstructions to the operation of laws intended for the protection of society and the welfare of the vicious and insane. An act has, however, been passed, allowing officers from the asylum to act as constables in the arrest of fugitive inebriates.

Insane drunkards would be undesirable inmates of our insane hospitals, if there was no legal difficulty in retaining them. They need little medical treatment, but require prolonged restraint, varied employments, and moral discipline. It will, I think, prove more practicable to include dipsomaniacs with habitual drunkards, not clearly coming under that head, than to insist on treating the former in hospitals for the insane as Dr. Bucknill advises. The State should establish an inebriate asylum, having ample facilities for remunerative employment, to which, after a most thorough judicial investigation, confirmed, habitual drunkards, sane or insane, might be committed for terms of not less than one, nor more than three years. If any should prove insane enough to require asylum treatment, they could be easily transferred for that purpose. I am sure a definite period of detention would suit dipsomaniacs better than the uncertain term of the inmates of insane asylums. One of this class, who had been three times in hospital, requested a definite sentence to the House of Correction, for a crime committed during his last attack.

The report of the State Board of Health, for 1879, contains the following statement of opinion: "That the present treatment of drunkenness by short sentences is in the highest degree unsatisfactory, is generally admitted; that many reforms or cures are possible, has been amply demonstrated, at least in

selected cases, by our best Inebriate Asylums; and it seems highly desirable that in proper circumstances the laws should authorize committals of drunkards for treatment in the same way as the insane. A more severe public judgment of drunkenness in recent times, has undoubtedly tended to very much decrease its prevalence."

Our reform legislature, while doing so much for the protection of the rights of the insane, might well have considered, also, the best plan for restraining habitual and insane drunkards. While intentional injustice to the insane is rare, danger from the maniacal fury of drunkards is common. Let us hope the new Board of Health, Lunacy and Charity, will at once give its attention to a subject having intimate relations with each of its three departments.

SOME DISEASES OF THE EYE REQUIRING IMMEDIATE TREATMENT.

By CHARLES H. WILLIAMS, M.D.
OF BOSTON.

READ JUNE 11, 1879.

SOME DISEASES OF THE EYE REQUIRING IMMEDIATE TREATMENT.

In some diseases of the eye which occasionally come into the hands of every general practitioner, the prompt recognition of the disease and the immediate application of the proper remedy is the one thing which is essential for the patient, and any delay may lead, not only to an aggravation of the symptoms, but to changes which no amount of after care can remedy, though at first they might have been easily prevented.

Glaucoma.

The following case will serve as an example of a class which is, unfortunately, not extremely rare.

A woman of about sixty years of age, after being subject to considerable mental anxiety, owing to a death in the family, was suddenly attacked in the night with agonizing pain in the head, extending over one side of the face, to the forehead, and especially about the eye of that side; this pain was accompanied by vomiting, and an inability to sleep, even under the influence of large doses of opium.

After this condition of things had lasted several days, the pain became more intermittent and the sight was found to be much impaired. This was attributed to the severe pain, and efforts were continued, by means of anodynes and poultices, to control the supposed neuralgia, but without success.

After some weeks, when the vision was entirely lost, the following condition was found.

The deeper vessels of the conjunctiva and the larger veins radiating from the cornea over the sclera were greatly congested, the cornea was somewhat opaque and not sensitive to the touch, the iris was crowded forward, the pupil widely and irregularly dilated and immovable, and when the fingers were gently pressed on the closed lids the eyeball was felt to be hard like a piece of stone, so that no depression could be made in the sclera.

The ophthalmoscope showed such an amount of cloudiness in the interior of the eye as to prevent any view of the deeper parts.

We had here, then, a typical case of acute glaucoma, passing on to a chronic form with entire loss of sight.

This disease may appear in various forms, but one never failing characteristic is increased intraocular tension, which may be detected by placing the tips of the two index or second fingers on the closed upper lid, when, by gently pressing with one we are able to determine whether the eyeball offers more resistance than normal to the pressure.

It is to the acute form that I wish to direct your attention, as requiring the prompt application of the remedy, and as offering the most brilliant results from treatment.

Acute glaucoma seldom occurs without a prodromic stage.

If inquiry is made it will be found that the patient has seen rainbow colors about the light at night, and by day objects look as though placed in a fog; there have been perhaps attacks of pain in the eyes at irregular intervals, and reading glasses have had to be frequently increased in power.

There is a slight increase in the intraocular tension, the pupil is somewhat enlarged and responds only slowly to light, and there is often a great falling off in the acuteness of vision, especially in the peripheral portions of the field.

All these symptoms may occur, and yet pass off without leaving any trace behind; still they usually lead on to an acute attack, and when, therefore, we find any of them we

should seek for others and be ready for an outbreak at any moment.

The disease usually occurs in persons of past middle life, especially among those who have suffered from grief or great fatigue; the prodromic stage is often very short or is unnoticed by the patient until his attention is recalled to it.

If an examination with the ophthalmoscope is made, we see the retinal veins congested, a pulsation of the arteries where they pass out over the disc, and, if the disease has lasted some little time, a cup shaped depression at the entrance of the optic nerve; but the media are often so cloudy that it is impossible to get a view of the fundus, and in most cases we must rely on other symptoms for our diagnosis rather than on an ophthalmoscopic examination.

The acute stage may last some days or even weeks, and be followed by a remission of the symptoms, with often a great increase in vision; but this improvement is usually deceptive and sooner or later the attack recurs, to pass finally into a chronic condition with absolute loss of function.

Professor Mauthner[1] says, "We rest the diagnosis of glaucoma, not upon the recognition of a decided morbid process, but upon the presence of certain symptoms," and the pathological changes which we find do not yet point us to the cause of the disease, which still continues as much a mystery as ever.

Since the time of Galen, medical writers have recognized the disease and speculated as to its causes; but after all that has been written, Professor Zehender, in a book published this year,[2] says, "The existence of glaucoma depends on an increase of pressure in the interior of the eye; it remains, however, still uncertain by what immediate causes the increase of pressure takes place."

Although the origin of the disease is still surrounded by

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[1] Knapp's Archives, VIII. 1, p. 67.
[2] Lehrbuch der Augenheilkunde, p. 436.

doubt, we are able in most cases, especially of the acute form, to apply a remedy which at once checks its progress, and, if not delayed too long, usually restores a considerable amount of sight.

Graefe showed, in 1856, that a disease which had previously been entirely beyond control, could be cured by means of an operation for iridectomy, with the details of which you are doubtless familiar. I would only say that the segment of iris should be removed close to its ciliary attachment, and be taken from the upper part, so that the enlarged pupil thus formed may be covered by the lid.

This operation has continued to the present time the one reliance in all cases of glaucoma, but of late years attempts have been made to study the effects of the operation more carefully, and to determine, if possible, what are its essential parts.

As a result of this, it has been shown that in many cases the removal of a portion of the iris is not only unnecessary but may sometimes be a disadvantage, and that the wound in the sclera is generally sufficient to relieve the intraocular tension and put a stop to the progress of the disease.

This operation of sclerotomy, proposed by Wecker, was first done by Stellwag[1] in Vienna, and later has been extensively tried by Quaglino, Wecker, and a number of others.

It is made as follows: a narrow Graefe cataract knife, or better a Wecker sclerotome, which resembles a small thin lancet, is entered in the sclera about 1 mm. behind the transparent cornea, a little above or below the horizontal diameter of the eye; the knife is then carried horizontally across the anterior chamber, in front of the iris, and a counterpuncture is made at the corresponding point of the opposite side.

If a cataract knife is used, the cut is now prolonged up or down, according as it was decided to operate upward or downward, until the edge of the knife forms a tangent to the

[1] Graefe u. Saemisch Handbuch, V. 1, p. 122.

transparent cornea, the aqueous is allowed to escape slowly, and the knife carefully withdrawn, care being taken not to drag the iris into the wound, though this is best prevented by previously instilling a drop of eserine solution into the conjunctival sac, to contract the iris.

If the sclerotome is used, it is simply pushed straight forward, and the lancet pointed end makes the whole cut 2 to 4 mm. in length, according to the width of the instrument; the rest of the blade having dull edges, serves to fill the wound and prevent a premature escape of aqueous and prolapse of the iris.

Mauthner[1] says of this operation, "Although sclerotomy has as yet gained but little recognition and in Germany hardly an introduction, yet the future probably belongs to it." He then gives the history of fourteen cases, in all of which the intraocular pressure was relieved by sclerotomy, and in one case where a double iridectomy was made in one eye and a single sclerotomy on the other, the tension was more noticeably relieved in the sclerotomized eye.

These form only a small part of the reported cases, and Wecker and many others give the operation a warm recommendation, especially for the simple or more chronic cases.

The operation is easier than iridectomy, there is less risk of wounding the lens, and if it continues to show such good results it will be preferred in many cases.

At the meeting of oculists at Heidelberg last summer, Laqueur stated that the incipient stages of glaucoma could be cut short by the instillation of a solution of eserine; still when the disease had advanced to an acute stage, although it might relieve the symptoms, it was not to be depended upon for a permanent cure, and could not replace an operation in such cases.

This corresponds to the experience of many others, for although in some acute cases eserine has reduced the intra-

[1] Knapp's Archives, VII. p. 201.

ocular tension permanently, still we are not yet able to rely upon it for the severer forms.

It is worth remembering, however, that in a case of *suspected* glaucoma atropine is to be avoided, and eserine in ½ to 1 per cent. solution (2 to 4½ grs. ad ℥ i.), or pilocarpine which acts in the same way, is to be freely used.

Not only is atropine to be avoided, but also any external applications as poultices; in an advanced case, an operation is the only thing which will stop the pain, and it should be especially noted that the intensity of the inflammatory symptoms is no contraindication to immediate interference, in fact the longer the delay, the less hopeful the prognosis becomes.

Iritis.

A disease of far more frequent occurrence than glaucoma, if not so fatal in its effects, is iritis. Here, also, it is necessary to interfere in the early stages in order to prevent the formation of permanent adhesions with partial or even total loss of sight.

The iris is a disc-like network of fine blood-vessels, which are held together by a loose connective tissue; on its posterior surface is a thick layer of pigment cells, and near its centre a round perforation, the pupil, whose border rests on the anterior capsule of the lens. In this vascular structure, suspended in the aqueous humor and covered over by the transparent cornea, we can see the processes of inflammation going on, as it were under glass, and the different varieties of iritis are simply the different stages and phases which the inflammation assumes.

In simple iritis a fine blush appears on the sclera, in a zone just surrounding the cornea; there is considerable pain and photophobia, the surface of the iris loses its fine fibrillated appearance, has more of a yellow or greenish tinge, owing to a deposit of exudation from the vessels, the pupil is contracted, adhesions are often formed between the pupillary

border of the iris and the capsule of the lens, and when the eye is exposed to changes of light and shade, with the other eye closed, the pupil is found to remain fixed, or to contract only slowly.

In this form the exudation is not extensive, being confined mostly to the surface of the iris and the pupillary border, and with proper care it passes off without leaving behind any change whatever.

In parenchymatous iritis we have the same symptoms, only intensified, the iris is much thickened, often small vessels are seen developed on its surface, and not only do we get a rapid formation of adhesions between the edge of the pupil and the capsule of the lens, but often large sheets of exuded matter with pigment cells are formed behind the iris, which seriously interfere with any subsequent operation for artificial pupil, in case the normal opening is closed.

If the exudation of white corpuscles is very abundant, they are poured out into the aqueous, and settle to the most dependent portion of the anterior chamber, forming a small collection of pus, or hypopion.

In the serous form of the disease we have the same pain and redness, but the exudation is more abundant than in the other forms, and has almost entirely a serous character with very little solid matter or tendency to form adhesions; the anterior chamber is quite deep, and from the fluid it contains small roundish points of fibrinous matter are often precipitated on the posterior surface of the cornea.

These changes are best seen by placing a light a few feet to one side of the patient's head, then by holding a lens of about 5 c. m. (2 inches) focus between the light and the eye at about its focal distance from the latter, we are able to concentrate the rays obliquely on the eye, and can examine in detail the cornea, anterior chamber, and iris, and can easily detect any pathological change of those parts.

In addition to these three forms, which are often not

clearly defined, but take on more or less of a mixed character, we often hear of a syphilitic and rheumatic iritis which have received their names rather on account of their frequent occurrence among persons suffering from those diseases, than on account of any appearance by which we can absolutely distinguish them.

In the syphilitic form, however, when occurring after the secondary or with the tertiary symptoms, we often get a development of small roundish elevations in the iris of a yellowish color bordered by reddish brown, which vary greatly in size, and are composed of masses of small cells and nuclei, with some scanty connective tissue and occasionally a blood-vessel.

These gummata yield readily to an anti-syphilitic treatment, being gradually absorbed and leaving only an atrophy of the iris at the point where they developed.

The causes of iritis are many. It occurs most frequently in syphilitic subjects and those with a rheumatic diathesis; exposure to cold, or injuries from foreign substances will often bring it on, or it may come as a secondary complication of diseases of the cornea and choroid.

It usually runs its course in from three to six weeks, and if properly cared for leaves no trace behind either in the tissue or in impaired function of the part.

The treatment has to be directed to dilating the pupil, thus drawing the iris away from its contact with the capsule of the lens, and escaping the danger of adhesion; to putting the part at rest, avoiding the constant effort of the inflamed tissue to dilate and contract with every change of light; and to controlling the pain.

The first two indications are met by dropping a $\frac{1}{2}$ to 1 per cent. solution of atropia (about 2 to $4\frac{1}{2}$ grs. ad $\overline{z}$ i.) into the conjunctival sac; the last by opium or chloral, and sometimes by leeches on the temple.

It was formerly taught that mercury was the one specific

for this disease, and even Wecker in a book published this year still insists on its efficiency; in most cases, however, atropine alone, when applied from three to four times a day, will generally be found sufficient to bring the disease to a successful termination; however, if adhesions have already formed, the stronger solution may be applied hourly.

In case the atropine is not able to rupture the adhesions, or in case the conjunctiva will not bear the instillations of atropine, as occasionally happens, we have now at our disposal a new remedy, duboisine, which acts more strongly than atropine, and can be applied in cases where the first has produced symptoms of local poisoning.

This drug is the active principle of an Australian plant, duboisia myoporoides, of the same family, Solonaceæ, as belladonna; it forms a most useful addition to our list of mydriatics, especially for exceptional cases; but the difficulty of keeping the preparations which are now made, except in solution, on account of their deliquescence, and the small amount in the market, will compel us, at least for the present, to rely on atropine.

As an attack of iritis is often mistaken for simple conjunctivitis, it is important to distinguish between them.

In iritis, the injection of the vessels is mostly confined to the circumcorneal region, the pain is often very severe and worse at night, the pupil is small and fixed so that it does not dilate when placed in shadow, and the discharge from the eyes is watery rather than mucous.

In conjunctivitis, on the contrary, the injection is most intense on the tarsal conjunctiva, though it may extend over the whole surface, the pain is not severe, the pupil retains its normal movability, and the discharge has a thick yellow look which is more or less profuse according to the intensity of the inflammation.

Again, since in iritis atropine is our main reliance, while in glaucoma it is to be avoided and other means applied, one must be able to recognize at once the two diseases.

In glaucoma we get an increase of intraocular tension, an appearance of rainbow colors about the light, and a limitation of the field of vision to the central portions; in iritis these symptoms are wanting. In glaucoma the pupil is dilated, the anterior chamber shallow, and through the pupil we get a greenish reflex from the interior of the eye; in iritis the pupil is small, often there are adhesions between the iris and lens, the iris is changed in color, the anterior chamber is normal or deeper than normal, the pain worse at night, and there is considerable photophobia. Glaucoma generally comes in persons of from fifty to seventy years of age; iritis may occur in those of any age.

These same symptoms will enable us to distinguish glaucoma from facial neuralgia, or from gastric trouble with which it has been confounded, especially when the attack has been sudden and the vomiting severe.

Ophthalmia of New-Born Children.

Another disease of the eye from which the inmates of our blind asylums are largely recruited, though in most of the cases a perfectly curable disease when properly cared for, is ophthalmia neonatorum.

This is caused in most cases by an inoculation with some purulent discharge from the vagina, but sometimes it may be brought on by other means.

It is not the rule that this inoculation takes place during labor, for as Zehender points out, the eyes are usually tightly closed at this time, and the most dangerous period is after the child is in the hands of the attendant, when, by carelessness in washing the lids, or by too early opening of the eyes, the poisonous matter may be introduced into the conjunctival sac.

It is not necessary that there should be a gonorrheal discharge from the vagina to give rise to this disease; any foul secretion may produce the ophthalmia neonatorum, or in some

ill nourished cases an acute catarrhal attack may take on the true purulent character.

The disease occurs from the first to the fifth day after birth, and is soon distinguished, by its virulence, from the slight catarrhal affections which frequently occur in young children.

The first symptoms are, a redness of the lid and conjunctiva, some swelling, and a thin yellowish secretion which exudes between the lids and collects along the lashes.

In a purulent case this quickly becomes worse, the lids cannot be opened of themselves, the swelling, redness and discharge rapidly increase, and when the lids are separated, an abundant yellow secretion pours out.

This lasts till about the fourth or sixth day, when the secretion becomes thicker and more homogeneous, the swelling of the lids is less marked, the surface of the conjunctiva tarsi loses its smooth look, becomes uneven and covered with fine papillæ, the chemosis of the conjunctiva moderates, and at the end of six to eight weeks, in a favorable case, no trace of the disease may remain.

A very frequent complication is ulceration of the cornea, and the prognosis depends on the extent to which this is involved.

In the early stages its epithelial layer is a sufficient protection to keep it from being inoculated with the purulent secretion, but in case this is destroyed either by being allowed to macerate in the discharge or by any injury from the means employed in the treatment, we get an infiltration of the cornea with the purulent matter, and an ulceration which may involve the whole tissue and entirely destroy the sight.

The secretion which the inflamed conjunctiva pours out, carries with it the danger of infection either to the cornea itself or to other eyes, and to the removal of this our treatment has to be directed.

In a disease which reaches its greatest intensity in from four to six days, one must act promptly. The first and

greatest necessity is cleanliness; the eye must be kept clear of all secretion even if it requires to be washed every half hour, and this must be continued not only by day but also by night, though with longer intervals.

To do this thoroughly, two persons are needed. The child is placed in the lap of one, with the feet turned away from the operator, the lids are now drawn apart with the fingers, or if so much swollen as to prevent this, a very good elevator can be improvised by bending back the crotch of a smooth hair pin for about $\frac{1}{4}$ of an inch.

This is inserted gently under the upper lid, care being taken not to touch the cornea, and if necessary another can be used for the lower lid also.

The lids being thus opened, some warm water is allowed to drop from a sponge, held a short distance above the eye, into the conjunctival sac, and the matter collected there is thus washed out without having any cloth or instrument come in contact with the cornea.

For ordinary cleansing, however, it is best not to use the elevator, as this can hardly be placed in a nurse's hands. The lids should be gently drawn far enough apart with the fingers to allow the secretion to be carefully removed, or if the swelling is very great the smooth point of a syringe can be gently inserted between the lids at the outer angle, and the secretion thus washed away, care being taken not to touch the cornea, and not to get any drop of matter into the eyes of the attendant, since eyes thus inoculated are sometimes lost in spite of any treatment.

As the discharge becomes less, the intervals between the washings should be made greater, especially at night, the object being simply to keep the eye free from the collections of purulent matter, and after some days it will be sufficient to use the astringent collyria alone.

The physician should have an occasional look at the cornea, even with the elevator, to assure himself of its integrity,

otherwise he may be surprised to find that ulceration and perforation have taken place when he least expected it.

In case an ulceration of the cornea does occur, the general practice has been to drop a solution of atropine ½ per cent. (2 grs. ad ʒ i.) into the eyes three times a day. Wecker, however, recommends eserine of the same strength, as much better in such cases, as it diminishes the calibre of the vessels, the amount of the secretion, and also the intraocular pressure, which last may be a decided advantage in case the ulcer tends to perforation.

If perforation actually occurs, its position must determine the treatment: if it is central, atropine should be used; if marginal, eserine, to avoid a hernia of the iris.

In addition to the constant washing and cleanliness it was formerly considered necessary to scarify and cauterize the conjunctiva, but the tendency seems to be at present toward less heroic measures.

The best application is a 2 per cent. solution of alum (10 grs. ad ʒ i.) to be dropped into the eye three times a day, or, if preferred, the everted lids may be painted once a day with a solution of nitrate of silver from ½ to 1 per cent. (2 to 4½ grs. ad ʒ i.), and some mild astringent wash used in the intervals, according to the choice of the operator; but if the silver is used, it should be afterward neutralized by water or salt and water before replacing the lids.

Some simple salve to prevent the excoriation of the skin and the adhesion of the lids completes the list of means that it is necessary to use in this disease, which is so easy to cure if properly treated, and so fatal in its results if neglected.

In a paper of this length it is of course not possible to do more than point out the prominent guide posts which may lead us on the proper road, and the finer details in which the specialist delights have to be abandoned in order not to obscure the general meaning.

Massachusetts Medical Society.

SOCIETY'S PRIZE.

The Committee on Publications are authorized to offer the sum of *two hundred dollars* as a prize, or honorarium, to any one Fellow of the Society who shall give, to the satisfaction of said Committee, on or before the 15th of April next, in an essay or report (worthy of a prize), the best and fullest evidence of any original or meritorious *professional work*, done by himself during the two years next preceding said date—in experimental investigations, scientific researches, or clinical observations.

Any clew by which its authorship is made known to the Committee will debar an essay from competition.

Papers may be sent to Dr. George C. Shattuck, No. 6 Newbury Street, Boston, on or before April 15, 1881, with motto and name, as usual in such cases.

FRANCIS W. GOSS,
Rec. Sec'y.

Roxbury, Mass., Aug. 2, 1880.

ARTICLE XV.

THE PREVENTION OF THE SPREAD OF TYPHOID FEVER.

BY THOMAS H. GAGE, M.D.,
OF WORCESTER.

READ AT THE ANNUAL MEETING, JUNE 9, 1880.*

Mr. President, and Fellows
of the Massachusetts Medical Society:

The subject to which I invite your attention this morning, is taken from the new and attractive field of Preventive Medicine. It relates to a disease of almost or quite universal prevalence, and to a feature of that disease which is constant and familiar.

What I have the honor to offer for your consideration will be upon the possibility, and the practicability, of preventing, or at least of diminishing the spread of typhoid fever, as it occurs among us, by processes of disinfection applied to the intestinal discharges of the typhoid patient.

I do not bring this subject to your notice in the expectation that what I have to offer will possess

* At an Adjourned Meeting of the Mass. Medical Society, held Oct. 3, 1860, it was

Resolved, "That the Massachusetts Medical Society hereby declares that it does not consider itself as having endorsed or censured the opinions in former published Annual Discourses, nor will it hold itself responsible for any opinions or sentiments advanced in any future similar discourses."

Resolved, "That the Committee on Publications be directed to print a statement to that effect at the commencement of each Annual Discourse which may hereafter be published."

the merit of novelty, or add much, if anything, to the great mass of knowledge and information upon it which is already accessible to the profession. I have nothing that is new or original to present, and there will be little of originality, I fear, in the presentation of that which is not new. The views to which I call your attention have been for many years before the medical public, and have been supported with great zeal and ability. Some of the most thoughtful and intelligent members of the profession among us have adopted them, and have given to the preventive measures they propose a full and unprejudiced trial. But their adoption has been by no means universal, and I have observed that precisely the class of occurrences they aim to prevent are constantly reported from various parts of the State, without allusion either to the preventive measures they suggest or to the vital theory upon which those measures are founded.

I have chosen the subject, therefore, as the theme of my remarks, under the influence of a strong impression, derived from all the evidence I have at my command, that the proposed methods of prevention have not yet received among us that general attention and experimental trial, to which by their reasonableness, and the great weight of testimony in their favor, they would appear to be entitled. And I will add, that I have selected it also out of a confident belief that their universal adoption would not only redound to the honor of the medical profession, but, what is of far greater

importance, contribute something of substantial and permanent value to the welfare and happiness of our people.

I am aware that great differences of opinion exist upon the questions which will be raised by the topic I have selected. It is a matter upon which observers and students are greatly divided. It would be strange if the views to be presented here did not provoke discussion. I only wish that they might do so. The general effect of such a discussion could not be other than beneficial.

At a recent meeting of the Obstetrical Society of London, Dr. Robert Barnes opened a discussion upon the important practical subject of "the use of forceps and its alternatives in lingering labor," by an address, in which occurred the following passage: "The true function of a society is to gather together, and then to diffuse knowledge; to encourage independent inquiry; to survey from time to time by the light of mutual reflection the positions attained, and thus to seek sound guidance in the application of our knowledge to our practical duties." The whole address from which this paragraph is taken, is replete with that practical wisdom which comes only from correct observation and great experience. It brought on a debate which was continued by repeated adjournments through several successive meetings. In it the most eminent obstetricians of the kingdom participated, and upon every phase of the important question reflected the light of individual study and experience. The whole discussion, accurately re-

ported, and presented to the medical public through the appropriate channels, completed a circle of operations, which illustrate in typical form the action of a society engaged in the exercise of its "true function to gather together and then to diffuse knowledge."

The subject that I bring to your notice to-day is one of at least equal practical importance with that introduced by Dr. Barnes to the society over which he presided. It is brought before an audience as familiar by long experience with the disease to which it relates, as was that audience with the obstetric art. It is as interesting and important to every medical practitioner as that, and it is as important in its relations to humanity as that. I wish it might receive at the hands of the members of this Society an equally general and continued discussion.

What I have to say relates to the spreading of typhoid fever *as it occurs among us*.

I do not limit the subject in this way under a belief that this familiar feature of the disease, as we see it, differs in any essential respect from the same thing as observed elsewhere. The laws that determine and govern the spreading of typhoid fever in one part of the world, have the same determining and governing influence in any other part. The specific poison by which the disease originates and spreads is the same everywhere, and, without doubt, the media of its transmission are the same everywhere. It is one of its essential characteristics to spread. Wherever it appears

it shows an invariable tendency to enlarge the sphere of its operations, and extend beyond the limits of its first invasion.

But it does not show this tendency to the same degree in all parts of the world. It is not manifested here, for example, as it is occasionally in England, and on the Continent of Europe. We, here in Massachusetts, have never yet, so far as I know, been visited by any of those wide-spread outbreaks so often described by English and German authors, where hundreds of persons have been almost simultaneously attacked, as in the recently reported disaster at Caterham and Redhill in England, where, according to the report of the local government Health Officer, the common water supply of these populous towns became polluted at its source by the excrement of a single typhoid patient. We have never yet experienced anything like the famous epidemic at Over-Darwen, where, as stated in an official report of the same description, within three weeks after the arrival of a lady suffering with typhoid fever, fifteen hundred persons were seized, through the accidental soakage into the common water-pipes of the town, of the sewage which contained her intestinal discharges. No village or town of Massachusetts has ever yet, to my knowledge, been overtaken by such a calamity as that which befel, in 1872, the little Swiss village of Lansen, where in a single summer, out of a population of 819 persons, 130 were attacked, through contamination of the water of the public fountains, by the irrigation of meadows miles away

among the mountains, with the water of a stream that contained the alvine evacuations of a family ill with typhoid fever.

The spreading of the disease among us has never attained to such *epi*demic proportions as these. Our experience has been with more circumscribed and limited forms. It has been chiefly as an *en*demic, restricted and confined to households and neighborhoods, that it has been familiar to the people of New England.

We have seen typhoid fever spread among us in families, from member to member, until several or all were prostrated; and we have seen it spread from house to house, and family to family, in clustering groups of houses, as in the typical country village. We have seen it spread from point to point, wide distances apart, by means of clearly established personal communication, and we have seen it cling to certain houses or localities, and reappear in or near them, year after year.

With the spreading of the disease in all these forms the physicians and the people of Massachusetts, and especially the dwellers in our quiet agricultural towns, have been familiar for many generations. Not a year passes without reports of its occurrence among us. It is mentioned on almost every page of our Health Reports, where "health of towns" is made from year to year the subject of medical correspondence. It is true that some of these reports are brief and incomplete, and that they suggest rather than describe the momentous events to which they refer. But this

would not apply to all. Many of them are given with that degree of fulness and accuracy which make them valuable acquisitions to our statistical knowledge. Some of them are interesting and instructive, not only from the faithfulness of the narrative, but from the importance of the comments which are made upon the event described. And not a few acquire still additional interest from an intelligent and original discussion of the causes of such occurrences and the means by which they may be prevented. No one can refer to these reports without finding much and various information upon the subject to which they relate; and no one can attentively consider them without discovering that many of the reporters have made the events to which they allude the subject of serious thought and study.

I have examined them all with considerable care, and have found among them descriptions, more or less complete, of more than a hundred and forty instances of the spreading of the disease. Of this number about one half have been examples of endemics, confined to households, in which from two to eleven members of a family have suffered. In sixty instances the disease has spread from house to house in circumscribed localities, as in a village, or street, or block of tenements. In at least a dozen well marked examples, it has returned, year after year, in the same house or locality — sometimes for many successive years. And there is repeated mention of its transmission from the scene of some local outbreak to new

fields of operation at a distance, in the person of an individual who had left the focus of infection, after having received the poison, and while the disease was still latent and undeveloped.

To the facts and information obtained from these instances, I have added such as I have been able to gather from a considerable number not hitherto reported, and also such as I have derived from a personal observation of my own during a period of twenty-five years; and through the whole experience so gathered, there have been constantly forced upon my observation one or two practical points of an interesting nature, to which I wish to call your attention. The observation of them is not new, or original with me. Their importance here is in the bearing they appear to have on the etiology of the events we have been considering.

One of these points is, that whenever and wherever among us typhoid fever has spread in any of the forms I have mentioned, it has appeared to spread primarily from a single case. This seems to have been an invariable rule. The disease, as we have seen it, has not stricken down suddenly and all at once all the persons in a house who were to suffer by it; nor has it seized simultaneously upon all the houses in a neighborhood that were to be invaded. Its progress has been gradual. It has first established itself, and then it has spread. I do not know of a recorded instance among us of the spreading of the disease, otherwise than from a centre first established by a single case.

Another point of apparently equal importance and significance is, that usually several weeks elapse after the appearance of the first single case, before other members of a family suffer, or before the disease extends to neighboring houses. I have been able to learn in twenty-four instances of spreading among us, either the exact order in which the cases have occurred, or to fix the order of their succession with so near an approach to accuracy as to leave no doubt upon my mind as to the actual facts. And I find that in these twenty-four instances there was—in one, a period of eleven days between the occurrence of the first and second cases; in two, a period of thirteen days; in one, of seventeen; in ten, of twenty-one; in two, of twenty-three; in one, of twenty-six; in two, of twenty-eight; in four, of thirty; and in one, of forty-five; and that the average period was twenty-three days.

Thus, apparently, according to our experience, there must be not only a first case from which spreading may begin, but there must be also a time after the beginning of the first case, and before the beginning of the second, for the development of some conditions which are requisite for spreading.

Let me now briefly illustrate by one or two cases. They will make what I have been speaking of clearer in your minds than my description of it has done, and will serve to put in their plainest light the kind of occurrences, and the order of events in them, which it is our object to prevent.

They will to some extent illustrate by suggestion the causes of such events. None of the cases are taken from our Health Reports.

I.

The scene of the first outbreak to which I ask your attention was an isolated farm house, two miles out from the city where I reside, on one of the great thoroughfares leading to a neighboring town. The house was situated a little back from the road, on high ground, commanding a delightful prospect in every direction. It was built upon a dry, gravelly knoll which fell rapidly off on three sides, to north, south, and east, and sloped gradually away on the west to a meadow. The drainage was good and the cellar dry. It was a well-built house, neither new nor old, and had all the appointments and conveniences which usually surround the house of a prosperous New England farmer. The barn, and the barnyard, the pigsty, the sink drain, and the privy, held about the same relation to each other, and to the house and the well, that they hold now, and have held for generations to many another country farm house all over the State. Moreover, they held the same relation here that they had held for years. Nothing had been recently changed or disturbed.

Altogether the scene of the sad occurrence was a comfortable and pleasant establishment, and, if not noticeable for its neatness, by no means conspicuous for the want of it, either within or without. It was the home of the most worthy and

intelligent people. The farmer and his wife who made it their residence had lived in it almost a generation, and had reared in it a large family of promising children. No sickness of serious nature had ever visited them, and certainly no infectious disease, until the great calamity which makes the subject of this sketch.

At the time of the occurrence the family consisted of the farmer and his wife, both past middle age; three grown up children (two sons and a daughter); a grandchild; three young men employed upon the farm; a maid-servant, and a colored man,—eleven persons in all.

On the 14th of June, 1871, I was called to this house to see the eldest son, ill with typhoid fever. He had been drooping for a week. The case was mild, but well marked, and only noticeable by the fact that diarrhœa was persistent and profuse. He recovered.

On the 5th of July, precisely three weeks from the date of my first visit to the elder brother, the younger was taken. His case was severe from first to last, and terminated fatally July 31st.

August 8th, just eight weeks from the seizure of her elder brother, and five weeks from that of the younger, the daughter was taken. Her sickness was brief and very violent. She died on the 18th, ten days from the attack.

During the month of August the father and the grandchild took it, and both recovered.

Later on in October the good wife and mother, worn down with grief and watching, also took it.

Her sickness was long and severe, and terminated in death on the 18th of November.

Meantime, while these sad events had been transpiring, and chiefly in the month of July, all three of the young men who had been employed upon the farm were taken, and scattered to their several homes. Two went to different towns in Vermont, and one to his home in this State. All were very sick and one died.

The maid-servant was also taken. She went to her home, many miles away, and was not only very sick herself, but communicated the disease to her family, all of whom suffered by it.

Not a soul escaped of all who were living in the house at the beginning of this dreadful outbreak, but the colored man. The endemic lasted from the middle of June to the middle of November. Out of eleven persons, ten had the disease and four died. It spread not only through the entire family where I first saw it, but through the agency of one of its members it entered and spread again through another many miles away. It began with a single case, characterized by profuse diarrhœa, and did not spread from that for three weeks.

The intestinal discharges, without disinfection, were thrown into the vault of the common privy, which was attached to the rear part of the house.

II.

A man came from some town in New Hampshire to the village of J. in the summer of 1875, and immediately fell ill with typhoid fever, of which

he soon died. He was believed to have been sick with the fever when he arrived. The next year, 1876, the disease broke out in the house next to the one where he died, attacking a mother and daughter, both of whom recovered. It also attacked in the same year two young persons in a family on the opposite side of the road, a little distance away. It appeared again in the village in a single case in 1877. In 1878 it again appeared in the house where, in 1876, it had attacked the mother and daughter. This time it took the husband and father, and he died. The place was then sold, and the next year the new proprietor was taken in the early spring, and also died.

There had been no typhoid fever in the village for many years until the advent of the sick man from N. H. in 1875. It has clung to the locality ever since, and broken out every year in houses all of which were within a stone's throw of the place where he died, and where his alvine evacuations were cast, without disinfection, into the shallow privy vault upon the surface of the ground.

III.

The following case I have taken from an admirable report of it which appeared in the Popular Science Monthly for February, 1879. I have taken it from just without the limits of our State, because the accuracy of the report brings out a point in the etiology, which I have been unable to discover in any recorded instance of a similar occurrence among us.

In the city of S. in the State of New York, in a clustering group of thirteen houses on the outskirts of the town, a case of typhoid fever broke out on the 8th of September, 1876. The next occurred in the second house beyond on the 4th of October, *twenty-six days later*. The disease then spread from house to house, until seven of the thirteen had been invaded, with a total result of seventeen cases and three deaths.

The reporter distinctly states that on the 20th of September, after a hot and dry time, a tremendous storm of rain occurred which filled and overflowed the privy vault, into which the excrementitious matter of the first case was thrown, scattering the material which it contained all over the ground, and into the neighborhood of the well from which all the families that suffered took their drinking water. And further, that none of the families in the group who did not use this well suffered.

These are typical examples of the spreading of typhoid fever as it has occurred among us. They illustrate the fact, to which I have alluded, that it spreads from a centre first established by a single case. They illustrate also the fact that the establishment of such a centre requires time. They suggest by implication that it is by means of the intestinal discharges that the infective centre is established.

I turn now to the presentation of a theory that such occurrences may be prevented by disin-

fection of these discharges, and to a brief consideration of some of the testimony supporting it. This testimony comes to us from various sources and from authorities who differ somewhat among themselves as to the nature of the disease, and still more as to the nature of the morbific agent by which it is propagated; but not at all upon the importance and value of disinfectant methods.

So far as I know, it is to the late Dr. William Budd, of England, that the medical profession and the public are mainly indebted for the theory of the prevention of the spread of typhoid fever by the disinfection of the intestinal discharges, and for the first practical suggestion of methods by which it may be carried out. The idea was, I think, original with him. It was certainly through his earnest advocacy that it was first brought prominently into public notice almost twenty-five years ago. His occasional contributions to the medical press upon this and kindred topics have made his name familiar, but he is probably best known among us by his elaborate work upon Typhoid Fever, Its Nature, Mode of Spreading, and Prevention, which was given to the public in 1873.

Dr. Budd's attention was first called to the subject in 1839, by a terrible outbreak of typhoid fever in the little village of North Tawton, Devonshire, where he was then residing, and where, as a young practitioner, he was just beginning his professional life. North Tawton was a country town of only eleven or twelve hundred inhabitants, and its people were mostly engaged in agricultural

pursuits. Dr. Budd was born there and had grown up among the people. He knew them all personally. Moreover, he was, medically, the sole possessor of the field. All the cases of the disease passed under his immediate observation and care.

The fever broke out in this secluded place in the second week of July, 1839, and before November eighty of the inhabitants had suffered by it. It furnished a typical illustration of the spreading tendency of the disease. Whole families were, one member after another, prostrated. It passed from house to house, and pervaded the place. Persons taken sick there left for their homes in neighboring towns, and carried with them the disease to new localities. Opportunity more favorable for the study of such occurrences could not have been presented, and Dr. Budd devoted himself to the task with enthusiasm. He traced the course and relation of events, observed everything in the living and the dead, and kept accurate notes of all.

The whole experience made, evidently, a profound impression upon his mind, and gave a strong direction to his subsequent studies. He passed, with lapse of years, from the little country town to larger spheres of practice and usefulness, and to great eminence in the profession; but always maintained to the end of life a continued and increasing interest in the great subject which had so signally attracted his early attention. To use his own expression, he seems to have been from the beginning "possessed with a burning desire

to devote the best powers of his mind to a discovery of the means by which such calamities may be prevented."

The views, therefore, of this eminent and original observer would seem to demand our first and most respectful consideration.

He held that typhoid fever is, in its essence, a contagious, or self-propagating fever; that it is a member of the great natural family of contagious fevers, of which small-pox, scarlet fever and measles are to us the most familiar examples; that, like other members of the family, it has for its exciting cause its own specific poison, and never any other; that this specific poison breeds and multiplies itself to an unlimited extent in the living body of the infected man;—and that this reproduction of it in the infected body, together with all the disturbance to which its rapid and tumultuous growth gives rise, constitutes the fever. He held that this enormous reproduction of the poison in the system is, in typhoid fever, precisely the same in kind as that of which we have in the pustular eruption of small-pox an outward ocular demonstration; that the disease of the intestine, which is the distinctive anatomical mark of typhoid fever, and its only constant and characteristic lesion, is the specific eruption of the fever; and that this intestinal eruption bears precisely the same pathological relation to the disease that the pustular eruption upon the skin does to small-pox.

As might be anticipated from such views, he

held that the contagious matter by which the fever is propagated, is cast off, chiefly, in discharges from the diseased intestine, and that it makes a large constituent part of every intestinal evacuation. Further, that, as a necessary result, privies, sewers and cesspools, which, under existing sanitary arrangements, are the common receptacles of these discharges, are also the principal instruments in the transmission of the contagion; but that they never originate it, and that it is never in them except as they have received it from a diseased person.

Taking cognizance, however, of the fact that physicians, nurses and other attendants upon the sick are often remarkably exempt from infection, and that, consequently, the contagious matter as it appears in the dejections upon their issue from the body, is not probably in a condition favorable to the manifestation of immediate activity,—he held that it requires to undergo some changes, outside the body, to fit it for transmission. It was his idea that when first cast off it is, so to speak, in *bulk;* that it appears in the discharges in the form of "clots or pellets of yellow matter," which are "to the contagious germs that float impalpable in air or water much as the block of granite is to the dust into which it may be ground;" and that before it can exert to its full extent the contagious power inherent in it, the infective germ or particle must be liberated from its entanglements and the organic husks in which it is embedded, by drying, fermentation, or some

other mode of disintegration and subdivision. But while it was his belief that such processes, external to the living body, were necessary to the liberation of the "fever seed," and so to its ultimate dispersal, he did not think that the contagious agent acquired by the means any new powers, or gained any increase in quantity.

With regard to the spreading of the disease, he maintained that the poison having been thus propagated and cast forth, and prepared for final dispersion, may be conveyed to healthy persons in the vicinity of the sick, and even to those at a distance, by the same media of transmission that serve to convey the poison of other contagious diseases; with, however, one important additional medium — that of drinking-water — which the poison of this infects because the discharges infect the ground.

And he believed that the course and progress of the disease in individual cases, and in its mode of spreading, increased and confirmed the evidences of its analogy with the contagious eruptive fevers; that, like all the members of that class, it has its incubative stage, and its stages of invasion, continuance and decline; that, like them, it usually attacks the same individual but once; that it spreads, as they spread, from single cases; and that its spreading requires, as with them, the lapse of a fixed and uniform time after the occurrence of the first case,—a time during which the poison may not only prepare itself for transmission, but be transmitted to and incubate in the person of

a new sufferer. Thus, according to Dr. Budd, typhoid fever is an eruptive fever, differing only from other eruptive fevers in the seat of the eruption, and in the manner of giving off and dispersing its contagious poison.

As a necessary result, he held that it is kept in existence by a continuous succession of cases, and that, whenever a case occurs, it is the lineal descendant of one that somewhere preceded it. He recognized, of course, the great difficulty at times of tracing this lineage, and the fact that it is often impossible. But he held that if due care is exercised in obtaining the historical facts, the difficulty will not be greater in this than in many another sporadic case of universally acknowledged contagious disease. It was his unhesitating belief that the line of descent, discovered or undiscovered, always exists. But he held that, while it may not be always easy to learn the origin of the first single case in an outbreak, no such difficulty can ever exist with regard to any of the cases that may follow. These, whatever their number, or the order of their occurrence, will be the immediate or remote descendants of that. To the contamination of the air, or of the ground, by the poison derived from the intestinal discharges of the first, all that follow may trace an undoubted origin.

Observing now that these bowel discharges, with all the contagious properties they possess, are, as they issue from the body, completely within human control—subject indeed to human dis-

posal—it occurred to him that, if the poison they contain could be destroyed before being cast out upon the ground, or into privies or cesspools or sewers, the spreading of the disease through their agency might be prevented. Upon the idea so suggested he proceeded to act. Knowing the power of strong chemical agents to destroy the contagious poison of other contagious diseases, when subjected to them in circumscribed and limited form, he determined to subject the typhoid excreta to the influence of precisely such agents. He caused the dejections to be received into vessels containing solutions of strong caustic and disinfectant substances, and after they had been so received, directed that still more of the same solutions should be poured upon them. Remembering also, from the subtle and impalpable nature of the poison, that everything which might have been soiled would be liable to become a medium of its transmission, he caused equally disinfectant precautions to be exercised with regard to the bed and body linen of the patient, and with regard to the person of the patient himself. He did not forget the minutest details, or the remotest possibilities, not even the possibly soiled hands of the attendant or nurse.

He put such measures to the test of severest trial, and demonstrated that what had seemed theoretically possible was actually practicable. He satisfied himself that the discharges might be disinfected, and that disinfecting them prevented the spreading of the disease. He applied the methods

in hospital practice, and in a large private practice, and with uniform success. He applied them in convents and schools, and other large establishments, where the disease was in progress and rapidly spreading, and through their agency arrested the epidemic.

Upon such views, and by such methods, Dr. Budd attained the object of his "burning desire," and thenceforth to show why prevention by disinfection is possible, by what means it may certainly be accomplished, and to urge the adoption of the disinfectant plan upon the profession and the public, became almost the absorbing purpose of his life. He prepared for popular use a set of rules for preventing the spread of the disease, with a clear statement for the popular ear of the assured knowledge which makes prevention possible. These rules are so simple, so plain, and withal so practicable, that almost any one may comprehend them, and almost any one may easily apply them. (See *Appendix*, p. 386.) I wish they might be distributed in every household in New England, and I cannot believe that the lesson they are intended to teach would be taught in vain. I simply quote the paragraph with which they close, and with it take my leave of the distinguished author and his attractive views. "These are golden rules. Where they are neglected, the fever may become a deadly scourge; where they are strictly carried out, it seldom spreads beyond the person first attacked."

It will occur, I presume, to every one familiar

with the history of opinions upon typhoid fever, that there is little of positive originality in these views of Dr. Budd, except so far as they relate to the measures of prevention proposed. In forming his theory of the nature of the disease, and of its pathology and mode of spreading by contagiousness of the discharges, it is probable that he only took up and enlarged upon ideas which had been advanced before his time. Brétonneau in France had published his well known observations ten years before Dr. Budd saw the epidemic at North Tawton, and had pointed out what appeared to him to be the true significance of the abdominal lesion. It was with him that the opinion originated that this lesion is a true furuncular eruption, and that typhoid fever is an exanthematous fever. The opinion has since been maintained by many observers of great eminence, and by none with more ability than by Trousseau.

No one here who recalls the memorable address delivered before this Society forty-five years ago, will fail to observe how strikingly the elaborate views we have been considering sustain and extend the parallel of marked affinities drawn there by Dr. Bigelow, between typhoid fever and the class of eruptive fevers. And no one conversant with the well known opinions of Dr. Nathan Smith upon the contagiousness of the disease, will fail to notice how they corroborate and explain the original observations of that remarkable man. Nor will it escape remark that the opinions of Dr. Smith, which were given to the profession almost

sixty years ago, were founded upon an experience of precisely the same general nature as that which first attracted to the subject the attention of Dr. Budd.

The doctrines I have presented for your consideration, with all their practical conclusions and applications, have been adopted without qualification or reserve by living scientific men of the highest eminence. Among such it is enough to mention the names of Sir Thomas Watson and Dr. Aitken, both of whom have lent to them, in their elaborate works upon The Theory and Practice of Medicine, their powerful sanction.

But they have received the most influential support and perhaps the most decided impulse at the hands of the distinguished author of the article upon typhoid fever, in Ziemssen's Cyclopædia of Practical Medicine. It is true that Liebermeister is not in full accord with Dr. Budd, in regard to the natural history of the typhoid poison. He maintains with the latter that it multiplies in the body and is contained in the alvine evacuations. But it is his idea that it requires for the full development of its infective powers to undergo a stage of growth and multiplication outside the body, in connection with decomposing animal and vegetable matter, such as eminently it finds in privies, and cesspools, and sewers. According to his theory, "the poison travels from the diseased individual to localities favorable for its growth and multiplication, and from these localities again into the human body."

As to the fact that the disease never occurs spontaneously, but is due always to a disease germ originating in some previous case; and as to the absolute certainty of the relation between the first case of any outbreak and the cases that follow, these authors are in perfect accord. The danger that will result from allowing single cases to establish centres of infection, and so to give rise to endemics, is constantly dwelt upon by Liebermeister. It is especially against the formation of these foci of infection, through the agency of the intestinal discharges, that he urges preventive measures. That their formation may be prevented, and that therefore spreading may be prevented, he gives the most constant and encouraging assurance.

The measures upon which he relies differ in nothing essential from those advised by Dr. Budd. They are applied to the same material and with the same purpose, and are recommended with precisely the same degree of confidence. Alluding to their efficiency, he declares that "if the physician" in their application "is supported by tolerably intelligent attendants, he may give the fullest guarantee that no extension of the disease will ensue from a single case."

Numerous authors and observers, whose high character gives great weight to any opinions they may offer, and who have adopted fully or in the main the views of Liebermeister in regard to the origin and spreading in endemics of the disease, have borne almost equally plain and decided testimony to the value of disinfectant methods.

Prof. Loomis, of the University of New York, in his recently published Lectures upon Fevers, says in regard to this matter, after giving direction for the disinfection of the discharges, "This procedure will certainly destroy the infective power of the typhoid poison contained in the intestinal discharges, and in the majority of instances you will prevent the spread of the fever."

A committee of distinguished Fellows of this Society, appointed six years ago by the City of Boston to examine into and report upon the causes of the high rate of mortality in that city, speaking of the measures of prevention against this disease, say: "Our first line of defence against the spread of typhoid fever from a diseased individual consists in the proper treatment of the dejections which are held to contain the seeds of the disease."

In a lecture upon the origin and propagation of typhoid fever, delivered within a few weeks before the Royal College of Physicians of London, by Dr. William Cayley, of the London Fever Hospital, the speaker, after a discussion of the important question as to how soon after their issue from the body, the stools acquire contagious properties, draws the following practical conclusion: "That we have in all cases a few hours during which it lies in our power to render the poison innocuous, and to prevent the spread of the disease by direct infection."

Mr. Simon, the eminent English sanitarian, speaking of the importance and possible value of disinfectant measures in the prevention of infec-

tious diseases, and this among the rest, says: "It is greatly to be hoped that, with time and with progress of general education, the systematic doing of such acts as these will, in each sick house, be considered an imperative duty of good citizenship, and may at last be so fully understood in that light as to be made as far as practicable an obligation at law."

But it is unnecessary to pursue either the theory or the testimony farther. I have spoken to you of the spreading of the disease *as it occurs among us.* I have pointed out the fact that in our experience spreading begins with a single case, and that other cases do not usually follow for two or three weeks,—a fact sufficient of itself to establish an *a priori* probability that the first stands to the last in the relation of cause to effect. I have called attention to a theory which explains this relation, and shows that the last cases *are* caused by a poison derived from the first, and that the intestinal discharges of the first *are* the medium of communication. I have shown how there has grown out of this theory a possible and practicable plan for preventing the disease from spreading, and have suggested the general features of that plan. I have given you the assurance of its most prominent advocate that it has been put to the test of severest practical trial for years, and always found successful; and I have introduced abundant corroborative testimony from other sources of high authority.

In doing this, I have accomplished the main

object I had in view at the beginning, by showing that there is not only reasonableness, but great weight of testimony in favor of the possibility and practicability of preventing, or at least of diminishing the spreading of the disease as it occurs among us.

I need hardly dwell upon the obvious practical conclusion that, if this theory is true, every case of the disease, wherever it may occur, whether mild or severe, ambulatory or confined to the bed, may be, if left to itself, the first case of a serious outbreak. Nor do I need to remind you that if this plan of prevention is to be carried out, and is to be effectual, it must be entirely under the advice and direction of the attending physician, and form an important part of the general and prescribed treatment of each individual case; and that an essential prerequisite of its success is "that whatever be done, should be done in that thorough and conscientious way which alone befits acts which may issue in health or disease, in life or death to indefinite numbers of men."

I am aware that for many years a very different theory of the cause of typhoid fever, and of the endemics which mark its course, has prevailed in Massachusetts. I suppose it still prevails. It is that the disease originates in a poison, which is generated outside the human body, in dead organic matter, in filth, in decomposition of animal and vegetable substances, in putrescence. This theory, which originated with Dr. Murchison, and from whom it received the name of "pythogenic,"—born

of putrescence,—has been, as you are well aware, very ably presented and supported here by the late Dr. Derby, in a paper on this subject, which has justly attracted the attention of sanitarians in all parts of the world. The conclusions arrived at by Dr. Derby, in forming which he had the assistance by correspondence of a great number of the leading physicians of the State, have long been the apparently accepted doctrines of the medical profession among us. Under this theory it has usually been considered a satisfactory explanation of one of the terrible outbreaks we have considered, to find that the air of the house had been vitiated by decomposing vegetable matter in the cellar, or by emanations from surrounding filth; or that the drinking water had been made foul by the filtration into it of the products of decomposition from neighboring privies or sink-drains. To these influences, or to some combinations of them, have been ascribed almost every example of spreading I have found alluded to in our "health of town" reports. And in none of them until those of the present year have I found allusion to the intestinal discharges of the typhoid patient, as the source of the poison by which privies and cesspools and sewers become the communicators of the disease.

I have avoided entering into any argument in support of the theory to which I have called your attention to-day, and I do not propose to enter into one to show that the theory of origin in putrescence is incorrect. It is only to the difference between the two in their practical bearing upon prevention

that I would wish to direct attention. The doctrines of Dr. Budd and of Liebermeister, that the typhoid poison has a vital, living origin in the human body, propose a simple, plain, practical test by which they may be tried, and their truth or falsity proved. Upon the result, when the method is faithfully carried out, they are content to stand or fall. The test is not difficult to apply. If applied and unsuccessful, no harm has been done. If applied and successful, a great good has been accomplished. Had they been put to the test in the three cases to which I have called your particular attention by way of illustration, and had they been as successful as their advocates promise, the result would have saved, in those instances alone, a protracted and dangerous illness to at least twenty-three pesons, and not less than nine valuable lives.

It seems hardly possible that we can overestimate the importance of the point we have been considering in its relations to the general subject. From the earliest times of which we have any authentic medical knowledge, typhoid fever has been among us a perpetual and unrelenting scourge. Some of our most dreaded and destructive forms of pestilence come and go; ravage for a time, and then depart. Diphtheria, one of the oldest of human diseases, had been absent from New England for almost two whole generations before its unlooked for reappearance in 1857, and had become well nigh forgotten in our medical literature. Small-pox almost wholly disappeared from our community during the thirty or forty years which

immediately followed the introduction of vaccination; then gradually regained a footing, and has continued to prevail ever since to a greater or less degree. Cholera, now and then, at long and irregular intervals of time, suddenly and abruptly visits us; lingers for a time; and then as suddenly and abruptly takes its departure. Cerebro-spinal meningitis, at times one of the most malignant of epidemics, gives also long and happy periods of exemption. But typhoid fever stays. It never leaves us. It never grants our people a respite even for a day. Somewhere among us it is always present, doing its specific work, which is, to multiply and replenish and scatter abroad the morbific agencies by which, from generation to generation, it perpetuates its baleful existence among men.

In forty years, from 1840 to 1880, a period which falls within the professional recollection of many of the gentlemen whom I see before me, there have perished by typhoid fever alone, in Massachusetts, forty thousand persons; *about* forty thousand persons. It is a common opinion, founded upon observation and statistics, that for every one who dies by this disease, at least eight or nine suffer by it and recover. If we adopt this method of computation, it will appear that the number of those who, during the same period, have been made sick by it and have not died, can hardly be less than three hundred and fifty thousand. These are startling figures. But if either of the statements were made less general, and in terms more precise and particular, as by the aid of what are considered

reliable statistics would be practicable, the immense aggregates would be increased rather than diminished. The annual average of this sickness and death is as if, every year, for the space of forty years, all the inhabitants of some one of our populous and important towns, like Northampton, for example, or Malden, had been attacked by typhoid fever, and one in ten had died.

But, after all, bald figures and statistical statements can convey but an imperfect idea, except by suggestion, of what our people have really suffered in their persons and their homes, directly and indirectly, by the disease. Just as, after a long and destructive war, it is possible to count up the immediate casualties of the field,—so many slain, and so many wounded,—but impossible to state in words or figures the indirect, remote, far-reaching consequences of the deadly strife upon individuals and the community: so here, reviewing the contest of years between our people and a most destructive disease, we can count up the dead, and compute the number of those who have sickened and have not died,—but we cannot give in arithmetical statement or in words, the disastrous result of the unequal conflict upon their fortunes and their happiness.

We cannot adequately estimate even the pecuniary loss which it has brought upon individuals; nor yet that which it has occasioned the State, by the death and disabling of such vast numbers of its efficient and productive members. Much less can we enumerate the families it has broken up

and scattered; the cherished hopes it has crushed forever; the dependent and the helpless from whom it has snatched the reliance and support; or yet the many, many homes where its dark shadow has fallen, never to be lifted up.

Fellows! The animating purpose of what I have now imperfectly presented, has been to suggest and to urge the adoption of some tried and approved methods by which the physicians and the people of the State, in their individual capacity, may effectually aid and supplement the efforts of Boards of Health and sanitary authorities generally, in the prevention or in the mitigation of one of the severest features of the disease.

And here I close, invoking for the subject once more, not merely a present consideration, but a future and fuller discussion.

APPENDIX.

Rules for Preventing the Spread of Typhoid Fever, drawn up for Popular Use.

The means by which typhoid fever may be prevented from spreading are very simple, very sure, and their cost next to nothing.

They are founded on the discovery that the poison by which this fever spreads is almost entirely contained in the discharges from the bowels.

These discharges infect—1. The air of the sick room. 2. The bed and body linen of the patient. 3. The privy and the cesspool; or the drains proceeding from them.

From the privy or drain the poison often soaks into the well, and infects the drinking water. This last, when it happens, is of all forms of fever poisoning the most deadly.

In these various ways the infection proceeding from the bowel discharges often spreads the fever far and wide.

The one great thing to aim at, therefore, is to disinfect these discharges on their very escape from the body, and before they are carried from the sick room.

This may be perfectly done by the use of disinfectants—one of the best is made of green copperas. This substance, which is used by all shoemakers, is very cheap and may be had everywhere. A pound and a half of green copperas to a gallon of water is the proper strength. A teacupful of this liquid put into the night-pan every time before it is used by the patient, renders the bowel discharge perfectly harmless.* One part of Calvert's liquid carbolic acid in fifty parts of water is equally efficacious.

To disinfect the bed, and body linen, and bedding generally, chloride of lime, or McDougall's or Calvert's Powder,

* As the discharge is sometimes much more copious than at others, the quantity of disinfectant added must of course be copious in the same proportion. A teacupful is mentioned in the rules, but the principle is to be lavish of the chemical.

is more convenient. These powders should be sprinkled, by means of a common dredger, on soiled spots on the linen, and about the room to purify the air.

All articles of bed and body linen should be plunged, immediately on their removal from the bed, into a bucket of water containing a tablespoonful of chloride of lime, or MacDougall's or Calvert's Powder, *and should be boiled before being washed.* A yard of thin, wide gutta-percha placed beneath the blanket, under the breech of the patient, by effectually preventing the discharges from soaking into the bed, is a great additional safeguard.

The privy, or closet, and all drains communicating with it, should be flushed twice daily with the green copperas liquid, or with carbolic acid, diluted with water.

In towns and villages where the fever is already prevalent, the last rule should be put in force for all houses, whether there be fever in them or not, and for all public drains.

In the event of death, the body should be placed, as soon as possible, in a coffin sprinkled with disinfectants. Early burial is, on all accounts, desirable.

As the hands of those attending on the sick often become unavoidably soiled by the discharges from the bowel, they should be frequently washed.

The sick room should be kept well ventilated day and night.

The greatest possible care should be taken with regard to the drinking water. Where there is the slightest risk of its having become tainted with fever poison, water should be got from a pure source, or should, at least, be boiled before being drunk. Immediately after the illness is over, whether ending in death or in recovery, the dresses worn by the nurses should be washed or destroyed, and the bed and room occupied by the sick should be thoroughly disinfected.

These are golden rules. Where they are neglected, the fever may become a deadly scourge; where they are strictly carried out, it seldom spreads beyond the person first attacked. W. B.

NOTE.—Dr. Budd's own practice was to place in the sick room, or close at hand, a large can filled with the

mixed solution of carbolic acid and sulphate of iron; to keep the night-pan always charged with it, and after each use of the pan to pour upon the discharge a quantity of the solution sufficient to *insure* the disinfection of what had been voided.

Calvert's liquid carbolic acid, which is referred to, is of about the same strength as the Acidum Carbolicum Impurum of the U. S. Pharmacopœia, and the latter may be substituted for it.

"MacDougall's Powder contains about 33 per cent. of carbolate of lime, 59 per cent. of sulphite of magnesia, the rest being water. Calvert's Powder contains from 20 to 30 per cent. of carbolic acid mixed with the powdered refuse from alum works." *The Antiseptic System. A. E. Sansom, London*, 1871.

These "powders" are favorite disinfectant compounds in Great Britain, and can be obtained without difficulty, but Dr. Budd appears to consider the chloride of lime for dredging purposes equally efficacious.

T. H. G.

BACTERIA, AND THEIR RELATIONS TO DISEASE.

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BACTERIA, AND THEIR RELATIONS TO DISEASE.

It is proposed in this paper to give a brief sketch of the classification and mode of development of Bacteria, together with a consideration of the points in favor of regarding them as the orginators of the diseases with which they are found associated, in order to see what principles should serve as guides in the interpretation of results or the criticism of the work of others.

First, considering their natural position and mode of development.

These organisms are doubtless vegetables, and as such have been placed in the lowest division of the cryptogams (the order containing the mosses, fungi and the like), under the name of Bacteria or Schizomycetes. Their general characteristics are described by Cohn as follows: cells without chlorophyll, of round, oblong or cylindrical form, at times twisted or bent, which increase entirely by division and vegetate either singly or in colonies. The cell contents consists of protoplasm, surrounded by a cell membrane, closely allied to cellulose and insoluble in caustic alkalies. Their presence in large numbers gives a cloudy or milky appearance to the fluid in which they vegetate; but if present in small numbers, or if the index of refraction is the same as that of the fluid in which they are suspended, their presence is only to be determined by aid of the microscope.

The Bacteria are divided into four tribes, and these again into one or more genera, as follows:

Tribe I. Spherobacteria (Round Bacteria).
Genus 1. Micrococcus.

Tribe II. Microbacteria (Rod-like Bacteria).
Genus 2. Bacterium.

Tribe III. Desmobacteria (Thread-like Bacteria).
Genus 3. Bacillus.
Genus 4. Vibrio.

Tribe IV. Spirobacteria (Screw-like Bacteria).
Genus 5. Spirillum.
Genus 6. Spirochæte.

The development of the Spherobacteria (Micrococcus) is as follows:—The cells divide, and are usually found joined together by twos, the point of junction being markedly contracted. By further division there can be formed short chains of three, four, eight, or more members, which are either stiff, straight or bent, and in consequence of their contractions have an appearance like a rosary. This has received the name of the Torula form. Besides this, there occur two other forms: one where the cells have become twisted or disarranged and form small irregular masses of bands, and but a step removed; the second, or so called Zoogloœa form, where the cells are produced in all directions and bound together by a very tender, gelatinous or mucous like mass, giving to the whole, under the microscope, an appearance very like that of shark skin. These bacteria have no movement.

Further than this they present no distinction of size or form, and their division into species is based upon the action which they are supposed to exercise, and they have been distributed among three groups, viz.: Chromogenous (producing pigment), Zymogenous (causing fermentation), and Pathogenous (causing disease).

The pigment-producing micrococci are all harmless. The

oldest and best known, the Micrococcus prodigiosus (Ehrn.), will serve as an example, for it is that which produces red spots on boiled potatoes or bread, and has given rise to the superstitious name of "the bleeding host." There are several others named after the colors which they produce: a yellow, which is insoluble in water; and orange, green and blue, which are soluble in water.

Of the ferment working micrococci, the one causing the alkaline fermentation of the urine called Micrococcus ureæ, is the best recognized, and the indirect effect it has upon the economy will be considered later. Micrococci are always found in putrefying substances associated with the rod-like forms (Bacterium proper), but as yet their peculiar action has not been determined.

The evidence of the existence of pathogenous micrococci will be entered upon more fully in the second portion of the paper.

The Microbacteria (rod-like Bacteria) are closely allied to the micrococci by the smallness of their cells and their union together by means of gelatinous or mucous masses; but they differ, apart from their physiological activity, in their short cylindrical form and the spontaneous movement of their cells. In this tribe is only one genus, viz.: Bacterium. They increase by division; but the daughter cells are never united in chains as in the Torula form of micrococcus, but are joined together by a glue like mass into the Zoogloœa form, which differs from that of the micrococcus in its less finely granular appearance under the microscope.

The blue and yellow color occurring at times in milk, as well as the blue-green color sometimes seen in pus, are due to a chromogenous Bacterium.

The best known form, however, is that which is always present in all putrefying substances, and which, from the careful works of Pasteur and Cohn, and verified by all subsequent observers, is to be considered as the originator of the

process. The acetic and lactic acid fermentations are also due to a bacterium according to Pasteur.

Another form larger than the last mentioned is found upon still but not stagnant water, and at times upon cooked potatoes. It is apparently without fermentative action, and is called Bacterium lineola.

There is no pathogenous Bacterium.

The third tribe, the Desmobacteria (thread-like Bacteria), comprises two genera, the first possessing straight threads and called Bacillus, and the second having wavy, bent or twisted threads and named Vibrio. The single cells consist of elongated cylinders, which increase to longer or shorter chains that are not constricted in the manner of the Rosary form (Torula) of the micrococci, but are cylindrical throughout. The Desmobacteria form colonies, but are never joined together by the glue-like mass into the Zoogloœa form of Micrococcus and Bacterium. At times they show motion, and then occur periods of repose depending upon unknown conditions, except that it seems to stand in some relation to the amount of oxygen present.

There are no chromogenous members in the tribe of the Desmobacteria.

One of the genus Bacillus, B. subtilis, has been found to be the agent in the butyric acid fermentation. It consists of very thin, fine, tender fibres, the points of division of which are not easily recognized. They have a motion which is quite peculiar, at times swimming forward in a straight line, then quickly with a zig-zag motion, as if finding their way among obstacles, then motionless for a long time, and then moving straight forward and again backward without turning upon their axis.

Several members stand in the closest relation with disease. In the first rank comes the Bacillus anthracis, Cohn, the cause of gangrene of the spleen (charbon, miltzbrand). It is hardly to be distinguished from the foregoing by its external appearance.

Moreover there are three others, which, as will be seen later, are intimately connected with septicæmia and pyæmia, with malaria and with leprosy.

The genus Vibrio is distinguished by its wavy outline and forms a connecting link with the twisted or Spirillum forms of the next tribe. Their threads are united together in countless numbers to form colonies. During life they have a motion like that of Bacillus, and the picture presented by the entangling and disentangling of these myriads of threads is peculiar in the extreme. They are found in the mouth about the teeth, but as yet no action has been traced to them.

The fourth and last tribe, the Spirobacteria, are characterized by the thick and closely wound spiral, which in one case is surmounted by a cilium, which distinguishes it at once from all other Bacteria, although Ehrenberg suspected that many more would be found to possess them. Two genera are recognized:

(*a*) Spirochæte, with a more flexible and longer narrow wound spiral.

(*b*) Spirillum, with stiffer, shorter and more distinct spiral.

The Spirochæte occurs as Sp. plicatilis in the mouth, and as Sp. Obermeyerii in remittent fever. The first apparently without action, and the value of the latter to be considered later.

No action has as yet been referred to the Spirilla, and it seems little likely that they would have been overlooked, as from their size they are easily recognized, the Sp. vullutans with its long cilia being a perfect giant among Bacteria.

The inexactness of these divisions is clearly seen, but it is the best there is to-day, and will at least serve as a working system. Cohn very truly says, that we find ourselves, in the kingdom of the Bacteria, in a position similar to that of the traveller who wanders about in an unknown land in

the dusk of evening, when the light is not sufficient to distinguish the objects sharply and clearly from each other, and where he feels sure that in spite of every precaution he cannot guard himself from error.

The Diseases caused by Bacteria.

In considering the diseases said to be caused by Bacteria, it will be well to present first those about which there is the least doubt, in order that the controverted points may be the more easily understood.

The disease, the parasitic origin of which is best established, was also the first to be discovered. This disease occurs chiefly among animals, and is known under the name of gangrene of the spleen—charbon, *Fr.*, milzbrand, *Ger.* It, however, is capable of being communicated to men, and has received the name of malignant pustule. It was first mentioned by Devaine in 1850, and the following is the description of the microscopic appearances of the blood. "The corpuscles, instead of remaining distinct, generally glue themselves together into irregular masses; besides, there were present small filiform bodies having about twice the diameter of a blood corpuscle. These little bodies did not present any spontaneous movement." These few lines, written thirty years ago, are the starting point of what must be considered one of the most important questions of the day, with the right solution of which the welfare of all is most closely united.

It will be impossible to follow the development of the subject step by step. But a summary of the work of Devaine, Pasteur and Kock will show that the subject has been placed upon as sure a foundation as any incapable of mathematical demonstration.

Kock traced the development of these little bodies, which belong to the genus Bacillus and are called B. antracis. He found that, when a small quantity of material containing

bacilli was injected into a mouse, there was in a short time a great increase of these elements; and, after growing to a certain length, they began to divide. He therefore concluded that the bacillus was capable of development within the blood and tissues of living animals in the same manner as other bacteria without the body.

In order to follow the changes closely, a small drop containing bacilli was placed in a little blood serum or humor aqueus and kept in a warm chamber freely supplied with air. Placed under the microscope, the development of a single thread could thus be observed. It was seen first of all to increase to many times its original length. Then it became finely granular in appearance, and in places appeared small, strongly refracting particles, at regular intervals. These further developed into somewhat oval, strongly refracting bodies, imbedded in the substance of the thread, and making the field of the microscope look as if covered with chains of pearls.

From this it was concluded that in the blood of a dead animal or other suitable fluid, within certain conditions of temperature and with free entrance of air (oxygen), the bacillus forms extremely long unbranching threads, and finally countless spores.

If now a drop of fluid, which under the microscope showed nothing but spores, was allowed to dry quickly, care being taken to prevent the admixture of foreign matter which might contain the spores of other bacteria, and reserved for several hours or days, and then placed in a suitable breeding fluid (previously sterilized), and kept at a constant temperature of 35° C., the following changes were seen. After one half hour the substance lying between the spores disappeared; after three quarters of an hour the spores began to increase in size and then developed in the following manner. Each egg-shaped spore became surrounded by a clear glass-like mass; this increased at one point in the direction of the

long axis of the spore, until it assumed a long oval form with the spore remaining at one end of the cylindrical body. The spore then began to lose lustre, quickly became pale, fell to pieces and finally disappeared. With this the circle of changes in the development of Bacillus anthracis is ended.

From this it is seen that the spores of the Bacillus anthracis under certain conditions (constant uniform temperature, proper food and free access of air) develope directly into the bacilli originally found in the blood.

The temperature between which the production of spores was possible varied between 18° C. and 40° C.; but the point at which they attained their quickest growth was about 35° C.

Further experiments showed that substances containing only the bacillus *threads* retained their inoculability, when dried, from a few days to several weeks—the length of time depending upon the amount of the substance dried.

Substances containing *spores*, on the other hand, even when thoroughly dried at ordinary temperature, retained their virulence for years unimpaired.

An experiment to prove the necessity of oxygen for the proper development of the spores consisted in placing a little fluid containing bacilli in a watch glass exposed to the air. Bacteria and micrococci were developed with putrefactive changes, but at the same time the bacillus produced its spores. If, however, the substance was placed in a closed glass tube or cell to which a free entrance of air (oxygen) is not permitted, the bacilli do not grow but gradually undergo degeneration, while the bacteria and micrococci thrive luxuriantly and putrefaction takes place.

To prove that the virulent properties were inseparably connected with the bacillus, fluid containing spores was allowed to stand quietly in a tall vessel, when it was found that the different layers of the fluid were capable of producing the disease in direct proportion to the number of spores

they contained as shown by the microscope. Pasteur carried this a step further, and filtered the fluid through plaster of Paris, through which the bacilli were unable to pass. He found that the filtrate only had the property of causing the blood corpuscles to agglutinate at the point of application, while the filtrant (containing bacilli) was infectious in the extreme. Pasteur has also succeeded in cultivating the bacillus through twelve generations in a purely mineral fluid (by successively taking a single drop of the preceding for a new cultivation, thus making the amount of original substance used a vanishing quantity in the last generation), and the last generation was as effective in producing the disease as the direct inoculation.

It is a well established fact that certain animals are incapable of inoculation, and this has been urged to show that the bacillus has nothing to do with the disease beyond an accidental association. But the same argument could be used to show that datura is not poisonous because sheep can eat it with impunity, or that belladonna is harmless because hens and rabbits are unaffected by it.

The manner in which the bacillus acts in the economy is not as yet fully decided. Part of its action is undoubtedly due to its great avidity for oxygen of which it deprives the tissues, and its development in such large numbers as to form veritable emboli and thus obstruct the circulation. Its pyrogenic action is shown by the local inflammation of the lympathatic glands, which is a constant accompaniment of the disease.

Recurrent Fever.

Another disease with which Bacteria are shown to be most intimately connected is recurrent fever, a type not often seen in this part of the world, but common at times in Europe. The symptoms are those of an irregularly intermitting fever occurring epidemically and not yielding to quinine.

In 1873 Obermeyer (one of the assistants in the Pathological Institute in Berlin) published an account of a peculiar body, which he had constantly found in the blood of persons affected with the disease, and which bore a close resemblance to the spirochæte found by Cohn in the tartar of the teeth. Since then its existence has so often been demonstrated by different observers as to be no longer a question of doubt, and it has been called, in honor of its discoverer, *Spirochæte Obermeyerii*.

The natural history of this parasite is not as well known as that of the bacillus last described. So far all attempts to reproduce the disease by inoculating animals have failed, and no opportunity has yet occurred for reproducing it upon men in this manner. The threads are found in the blood just before and during the paroxysm, and disappear completely during the apyretic stage. If they are found during this stage, as has been affirmed by some observers, they are few in number, and according to one of the latest observers their presence is always accompanied by a rise of temperature of a slight degree.

Cultivated in blood or other breeding fluids outside of the body, the threads go on to a certain degree of development, but never to the formation of recognizable spores, although their existence is rendered probable by the course of the disease. Experiments in regard to their capability of withstanding different degrees of temperature, show that if two examples are taken from the same patient at the same time the threads are destroyed sooner by a fever temperature than by the normal temperature of the body; and further, that specimens taken from the same patient at different periods of the attack had different capability of living, when exposed to the same conditions. From this the conclusion is justified that the spirochæte are destroyed by the fever which they cause (as they disappear half an hour before the crisis), leaving behind them either spores or a very few threads,

which when sufficiently developed give rise to the fever which again destroys them. They have never been observed in the blood of patients suffering from other diseases.

In the two diseases just described, the bacteria found associated with them had well marked characteristic forms, easily recognized by ordinary methods. In the diseases now to be described this characteristic is wanting, and peculiar methods of microscopic investigation have to be used in order to demonstrate their existence.

The work of Robert Kock, published in 1878 under the title, Die Wundinfectionskrankheiten (Diseases caused by Wound Infection), is that in which the best methods and experiments are recorded, and it will repay a careful abstract, as it must be considered a standard by which to judge work done in this field. He experimented in the production of diseases collected under the heads of Septicæmia and Pyæmia, in local abscess formation and gangrene. Let it be here stated that under Septicæmia are comprised all cases of general wound infection in which there are no metastatic changes, and under Pyæmia those in which metastatic abscesses occur.

Septicæmia in Mice.

The first series of experiments show the dependence of septicæmia in mice upon a very minute form of bacillus.

Injections of putrefying substances, e. g., blood, or an infusion of meat made under the skin of a mouse, gave results varying according to the state and quantity of the fluid used. That which had been putrefying a long time was found to be less virulent. Five drops of a recently putrefied fluid produced symptoms noticeable at once. The mouse runs about less, shows great weakness and uncertainty in all his movements, does not eat, the respirations become finally irregular and slower, and death occurs in from four to eight hours.

In such an animal the greater part of the injected substance is found in the subcutaneous tissue, containing the same number of bacteria of different forms as before injection. There is no reaction in the neighborhood of the seat of puncture and the internal organs are unchanged, nor are there any bacteria found in them or in the blood. If the blood is taken from the right heart and injected into a second mouse, he is not the least affected by it.

The first animal has been killed by intoxication due to the poison contained in the putrefying substance, which has been insolated by Panum, Bergmann and others under the name of *sepsin*. This has a working analogous to morphia, strychnia or other poisonous alkaloid, and is in no way to be considered infectious. If however a less dose, e. g., one to two drops, be injected, either the animals recover entirely, or a different train of symptoms will appear, due to an entirely different cause.

The first symptom of the disease consists in an increased secretion of the conjunctiva. The eye appears cloudy, and a white mucus collects, finally gluing the eyes together. At the same time the animal shows signs of weariness, it moves little and slowly; sits for the greater part of the time with its back bent and extremities closely pressed together. It then stops eating, the respiration becomes slower, the weakness increases more and more, and death occurs, almost unnoticed, in from forty to sixty hours after the inoculation. At the autopsy the internal organs are found unchanged, with the exception of the spleen, which is greatly swollen and very soft. A slight œdema of the subcutaneous tissue at the point of injection is often found. If a small quantity of blood from the heart of this mouse, say one tenth of a drop, be injected into a second mouse, this also dies with the same symptoms at the end of the same time. From this a third can be killed, and so on. Kock carried it through a series of fifty. This disease then is in-

fectious, and bears so close a resemblance, in its course and anatomical appearances, to that known as septicæmia in men, as to justify the name.

If this process is due to bacteria they must be present in enormous numbers in the blood and tissues, since such a very minute quantity is able to reproduce the disease.

At first Kock was unable to detect them, but at last by the following method was able to demonstrate their presence: the smallest possible quantity of blood is taken on the point of a scalpel and spread out to the thinnest possible layer on the covering glass of a microscopic slide, and allowed to dry thoroughly, well protected from dust. A few drops of a solution of aniline blue (a concentrated solution of BBBBB methyl violet is made in spirit, and a few drops of this are added to fifteen to twenty grams of distilled water) are allowed to fall on the cover glass holding the blood, and the glass is tipped about for a few minutes until the bacteria and cells are colored, but the ground substance is left clear. It can then be examined in a solution of acetate of potash (1–10), or in Canada balsam after thoroughly drying.

By coloring the drop of blood in this manner and examining it with a Zeiss 1–12 oil immersion lens, illuminated by Abbe's condenser, he found in every case large quantities of small bacilli. These bacilli lie scattered among the red blood corpuscles singly or in groups. They have a length of about 0.8—1.0 mikrom, and their thickness is estimated at about 0.1—0.2 mikrom. Two of these bacilli are seen hanging together in a straight line, or forming an obtuse angle. Chains of four occur, but are seldom. At first appearance these bacilli look very much like acicular crystals, but by breeding they increase and form themselves into thick heaps. Their relation to the white blood corpuscles is also remarkable. They work into the interior and increase there: in some cases only a few are to be seen, and in others the corpuscles with the exception of the nuclei are filled;

then again the nucleus of the cell is not to be seen, and finally all that is left is a little clump of bacilli.

The way in which the bacilli penetrate the organism is easily followed. From the point of inoculation they pass through the walls of the vessels by the holes through which the blood corpuscles have passed out. They are not found in the lymph paths, but can be followed for a long distance in the subcutaneous cellular tissue. In the small veins of the diaphragm, for example, they are seen, and when free, with their long axis always in the direction of the current. In the capillaries the bacilli are crowded together at the points of division, but they do not give rise to complete occlusion of the vessel.

Sections of the various tissues show everywhere vessels with the bacilli lying in them and in the interior of the white corpuscles. They are not particularly accumulated in the spleen.

The entire process has the closest analogy with that of splenic gangrene. In both diseases is the capability of infection dependent upon the presence of the bacilli in the blood, and as soon as these fail, the disease is not communicated. Both diseases are also characterized by the development of countless bacilli. There can therefore be but little doubt that the bacilli here described for septicæmia, play the same roll as do the bacillus anthracis in gangrene of the spleen.

As gangrene of the spleen is without effect upon certain animals, so it was found that rabbits and field mice (the only other animals used by Kock) were not infected by the blood from infected house mice.

In cases of septicæmia in men, the presence of bacteria in the blood has only been seen by a few observers.

Progressive Necrosis of Tissue (Gangrene) in Mice.

After inoculating some of the mice with putrefying fluid as described, it was found that an extensive local necrosis of the tissue also occurred, accompanied by a rapidly growing micrococcus form, which was not to be found in the blood. As the animals suffered from septicæmia at the same time, it might be urged that the gangrene was dependent upon that disease. In order to eliminate this, a little fluid from the neighborhood of one of these gangrenous spots was injected into a field mouse, which it will be remembered was incapable of infection from septicæmia. On this the gangrenous process alone developed itself, and could thence be reproduced in an ordinary house mouse without the symptoms of septicæmia.

The process can be readily followed, if the ear of a mouse is chosen for inoculation. Thin sections through one of these places show masses of micrococci on the boundary between the living and dead tissues; then comes a mass of nucleated cells, much degenerated on the side nearest to the micrococci, from which they are however separated by a clear, narrow zone. This mass of nuclei appears to form a wall against the invading micrococci, which are never found beyond it even in the vessels.

From this Kock concludes that the micrococci vegetate in the tissue, and exude or secrete a soluble substance, which is diffused into the neighborhood, and has such a deleterious influence on the adjoining cells that they are killed and finally go to pieces. Further from the micrococci the working is less intense, and only calls forth a reactive inflammation with production of nuclei forming the wall.

Progressive Abscess Formation in Rabbits.

As before mentioned, rabbits are incapable of septic infection; but frequently after the subcutaneous injection of putrefying fluids, a wide extended abscess developed itself. The changes observed are as follows: at the point of injection a flat lenticular infiltration first appears, which extends in all directions after several days. At the same time the animals became thin and weak, and died in from twelve to fifteen days. The post-mortem examination showed a flat abscess of the subcutaneous connective tissue, having little recesses connecting with each other. The only other change noticed besides the extreme emaciation was an increase in the number of white blood corpuscles, which however contained no bacteria, nor were any found in the blood. The contents of the abscess consisted of a molecular detritus not colored by aniline blue. Thin sections of the wall of the abscess, mounted and examined in the way above mentioned, show a narrow zone of the finest micrococci lying on the periphery of the abscess next to the sound tissue. In the connective corpuscles are seen here and there masses of micrococci, apparently acting as advance guards of the process. The cheesy material, from the centre of the abscess, when mixed with water and injected into another rabbit, produced similar results with death within the same time. This material probably contained the spores.

Pyæmia in Rabbits.

Although putrefying blood did not produce any symptoms of general infection when inoculated into rabbits, it was found that putrefying flesh gave rise to well marked and characteristic changes. The animal remained apparently unaffected for two days, then began to eat less, and died at the end of one hundred hours with symptoms of general weakness. At the autopsy there was found a purulent (not cheesy) infiltration in the subcutaneous tissue for a long

distance from the point of injection, a general peritonitis, the spleen soft and greatly swollen, and in the lungs and liver gray, wedge-shaped spots. In the other organs there was no noticeable change. The microscope showed every where in the body, especially in the places showing pathological changes to the unaided eye, micrococci in great numbers. These were either single, or bound together by twos, and had an estimated diameter of 0.25 microm. (i. e., midway in size between the chain micrococci of the progressive tissue necrosis, and the zoogloœa masses of the cheesy abscess of rabbits). These micrococci also formed colonies on the walls of the vessels, and apparently had the power of entangling the red corpuscles by a glue-like substance, and eventually causing a thrombosis of the vessel. In the metastatic deposits were found extensive micrococci vegetations, not alone confined to the vessels, but infiltrated into the neighboring tissues. Blood from the heart contained micrococci, and was used for inoculation with perfect result. But the number of the bacteria, owing to their localization by thrombosis, by no means equalled the number found free in the blood of septicæmia or gangrene of the spleen, for a dilution of the blood in the proportion of one to one-thousand rendered its working uncertain.

In human beings the impossibility of direct experimentation, and the difficulty of obtaining autopsies sufficiently early to exclude all possibility of the production of the bacteria of putrefaction, will always be a serious obstacle to so perfect and clear a proof, as has been furnished in the above experiments, of the dependence of some certain diseases upon the presence of micro-organisms. Much, however, goes to support this belief.

Rindfleish was the first, in 1866, to call attention to the occurrence of bacteria in the metastatic abscesses in the muscles of the heart of a patient who had died from pyæmia. Recklinghausen and Waldeyer showed their occurrence in

the smallest veins, glomeruli and tubules of the kidney, and in the alveoli of the lungs. In 1872 Vogt reported the occurrence of moving monads in the pus of a metastatic abscess during life. Birch Hirshfeld examined the condition of the wound, in relation to the quantity of micrococci in the pus, and found the more numerous they were the worse was the condition of the wound and of the patient. He also found them present in the blood of the pyæmic, and that the quick course of the general affection corresponded to the number present in the blood. The exact method by which the bacteria found their way into the circulation was given by Klebs, who was the first to really attempt to bring the causal relation between bacteria and wound infection into prominence. Klebs called the micrococci and bacteria which he found in the pus of wounds by the name of *microsporon septicum*, and was enabled to follow the growth of the zoogloœa masses on granulations, surfaces of the joints and serous membranes. The propagation of the microsporon by the lymph paths could be followed with great certainty, and moreover their entrance into an eroded vein was observed in one case. Further, the elements of the microsporon were seen in the thrombi, formed behind the valves of the veins, and in the metastatic foci in the lungs and liver.

The occurrence of micrococci in the membrane of diphtheria of the throat has been confirmed an endless number of times. Their penetration into the nearest lymph-vessels, their further progress into the blood-vessels, and their occurrence in the liver, kidneys, muscles of the heart, and in other organs in the form of colonies, have been observed and confirmed. There is nothing distinctive in this from what is ordinarily seen in a case of pyæmia, and the experiments which have been made upon rabbits in this regard are by no means conclusive, as similar results could be obtained by inoculating any putrefying substance. More-

over the membrane found on wounds in cases of so-called hospital gangrene is indistinguishable from that found on the throat. From all these circumstances one is forced to recognize the near relationship of diphtheria and pyæmia, if not their identity, and what is justified in one is justified in the other.

Exactly the same occurrence has been demonstrated in the case of so-called puerperal fever, which the greater part of observers on other grounds regard as pyæmia.

Bacteria have also been found in the blood of persons suffering from erysipelas. Orth found them in the bullæ of that disease, and by cultivation and inoculation reproduced a similar process in rabbits. Recklinghausen and Lukomsky showed that the lymph canals and spaces on the border of of erysipelatous affections were filled with bacteria.

Cohn has shown the presence of sphæro-bacteria in the lymph of the vaccine vesicle, and by allowing the same to settle, found that its efficacy stood in different proportion to the amount of micrococci it contained. In small-pox Weigert has proved the existence of micrococci in each pustule. Both of these results have been confirmed by other observers.

Since the publication of Kock's book, other observers have followed his methods, and within six months investigations have been recorded which show that two other diseases are in all probability due to micro-organisms. One of these is malarial fever, which has been studied by Profs. Klebs and Tomassi-Crudeli. They placed portions of the soil from the malarial districts in the neighborhood of Rome, under conditions similar to those found during the so-called malarial season, and from these developed a bacillus, which when injected into the blood of rabbits produced a sort of intermittent fever, during the paroxysms of which the bacillus was found largely increased in the blood. The post-mortem examination showed a hyperplasia and often melanosis of the

spleen, corresponding to what has been found in man, and totally different from the acute splenic tumor, which occurs in septicæmia. Portions of the soil from other localities failed to produce the symptoms when treated in the same way.

The other of these diseases is leprosy. Dr. Hansen of Bergen, in Norway, has examined the nodes in this disease, and has been able to find a minute bacillus, which is always present in sufficient numbers to account for the symptom. But he has failed as yet to discover the conditions of its life and development.

Such are the principal diseases to which bacteria are referred as a cause. To these may perhaps be added ulcerative endocarditis, with or without affection of the joints in which micrococci are found in the vegetations on the valves, and in the emboli produced by them; and cystitis and pyelo-nephritis resulting from the alkaline fermentation of the urine caused by a micrococcus.

In summing up, Kock says that the numerous occurrences of micro-organisms in cases of disease, and the experiments standing in close relation, make the parasitic nature of these diseases probable. Still a complete proof has not been given as yet, and can only be when it is possible to find the parasitic organisms in all cases of the disease, and further, to show them in such quantity and distribution, that all the appearances can be explained, and finally to demonstrate, for each separate disease, a morphologically well characterized parasite.

In looking back it will be seen that gangrene of the spleen is the only one which as yet fulfils the conditions, although the diseases studied by Kock on animals very nearly do so.

And although in all of these, with one exception, so much remains to be proved, there are some who wish to refer simply analogous processes, as scarlet fever, measles and the like, in which they have not been found, to the agency of

bacteria; forgetting that there may be causes which we can as little recognize, as could our forefathers the bacteria which are everywhere around us.

And even admitting all to be proved as desired, it is not to be forgotten that it is *but the cause* which has been found, and the real changes which lie in the cell and constitute the essence of the disease are as far off as ever.

ANTISEPTIC TREATMENT OF EMPYEMA.

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ANTISEPTIC TREATMENT OF EMPYEMA.

THE treatment of Empyema by the establishment of a free opening and ample drainage of the chest, with full antiseptic precautions, is accepted by the profession at large more slowly, I think, than its merits deserve.

The reasons for its tardy adoption are mainly two:

First, many physicians believe that by drawing off the pus with the aspirator, they may attain a cure, while exposing the patient to less risk than with a free opening; and secondly, the care and attention to detail required for the successful carrying out of the antiseptic precautions are so irksome to a busy and hurried practitioner, that he is not willing to submit to the annoyances of the method, until its advantages are demonstrated beyond a doubt. I hope this paper may assist somewhat in the exhibition of these advantages.

Before proceeding to the consideration of cases, I wish to say a few words concerning this method of treatment. I do not propose to describe at length the precautions to be taken, as the details of antiseptic surgery are fully given in many hand-books and special articles; of one or two points, however, bearing particularly on this class of cases, I wish to speak.

Much has been said and written against the spray; and many surgeons are inclined to dispense with it. Dr Stimson, of New York, has even published some experiments which have led him to conclude that it is a useless adjunct to an

antiseptic operation. I am inclined, however, to differ with Dr. Stimson upon this point; and though I cannot detain you with a criticism of his experiments, I will give shortly my reasons for thinking the spray of value, and especially useful in the operation we are considering.

The action of the spray is two-fold. First, it furnishes a fine shower of a strong antiseptic solution, which thoroughly wets the parts to be operated on, the hands of the surgeon and assistants, and all instruments brought in proximity to the wound. If a particle of dust carrying germs of putrefaction falls upon any of these parts, it falls into an antiseptic solution, is soon covered by more of the same, and the germs are quickly destroyed. In ordinary operations this is, I think, the most important action of the spray.

In this operation, however, another even more important property is to be considered. Tyndall, in some of his lectures, blew air through cotton wool, thus sifting from it the contained atoms, and, projecting this filtered stream of air upon a sunbeam made visible by the dust suspended in it, he cut a black swath across its track with his blast of purified air, which displaced the dusty air before it. Now in the atomizer we have a contrivance by which we can displace in similar manner the air containing dust, and substitute for it a pure vapor strongly impregnated with an antiseptic, and it is by thus *displacing* impure air that the spray is of use,—not, as has been sometimes thought, by *destroying at once* germs floating through it.

It is important, then, when the chest is opened and the air rushes in and out with respiration, that the spray should be carefully watched to see that it throws a good stream well directed against the opening, so that this purified vapor alone shall enter. A steam atomizer should always be used for this purpose, as the stream is more steady and the steam is absolutely free from germs, which would certainly be present in the air thrown through a hand atomizer.

For drainage tube I think it of advantage to have two lying side by side, and just long enough to reach through the chest wall. If the one is clogged by coagula, the other will conduct away the discharge. They are convenient, too, if it is necessary to wash out the chest.

Prof. Lister, in a recent lecture, states that he never washes out the chest, and does not consider it advisable. If an operation is carried out antiseptically, it is certainly unnecessary to wash out the cavity to render it aseptic; it is already so; but I have thought that I gained time in the recovery by washing out the large coagula which otherwise would have left the chest with difficulty, if at all. For this purpose I selected a one per cent. solution of carbolic acid. In preparing this, care should be taken that it be mixed at least ten minutes before it is used, as this length of time is required for the carbolic acid to render inert the germs contained in the water with which it is diluted. If, as in the case of a young child, it seems best to avoid the use of carbolic acid, chlorinated soda may well be substituted for it.

The drainage tubes must be fastened securely to prevent their escape into the chest, and care must be taken that the dressing does not press so upon their ends as to hinder the escape of the pus. I have accomplished this by rolling a loose piece of gauze into a ring and laying it around the ends of the tubes.

The outer dressings should be considerably more abundant than in other regions, as the constant motion of the chest wall favors the flow of the discharge through them. They may be secured in place with a flannel bandage, which Prof. Lister supplements with a rubber bandage to keep the edges of the dressing in close contact with the skin. This I found very useful in two of my cases.

Great care must be taken in the application of the mackintosh, for a reason which I will now explain. If this

water and air proof layer is carefully adjusted so that its edges overlap the gauze beneath it, it will be held most closely applied to the skin. Now at every cough, sneeze or other forcible expiration, the air will be driven out from under this edge, which acts then as a valve to prevent its return. You have thus the air in the pleural cavity constantly diminishing, and so a slight suction power is exerted upon the lung, favoring its expansion. To this mechanism I ascribe the very rapid expansion of the lung in these cases, the importance of which in obliterating the abscess cavity is manifest.

In operating, I explore the chest in the selected spot with a grooved needle, and if pus shows itself I then run my knife down the groove, and immediately make the required incision. In this way the knife follows the track of the exploring needle, and finding the pus in the quickest way makes a straight, clean opening into it. Before withdrawing the needle I slide in a director, which I keep there till the pus is out and the tubes in place. When the patient is not etherized, this procedure greatly shortens the painful part of the operation.

To illustrate the advantages of this method of operation and dressing, I will briefly report four cases, three of them in my own practice, and one treated by Dr. J. B. Swift.

Case I.—J. K., a girl of eleven, entered the Carney Hospital in the middle of March, 1879. Her illness dated from Feb. 9th, at which time she began to lose her appetite and strength, and to have some dyspnœa. This shortness of breath had troubled her constantly since then, though at no time very severe. Shortly before her entry a physician had tapped the right side of her chest with an aspirator, and had drawn a small quantity of pus.

At the time of entrance, her right side was flat to percussion, except at the apex, where the note was high pitched. Respiration and voice were absent over the flat portion.

March 20.—Ether was administered, and an opening was made in the eighth intercostal space beneath the axilla. The precautions which I have described were observed during the operation and subsequent dressings. There being many fibrinous clots, the chest was syringed out with a one per cent. solution of carbolic acid. For the first few days the dressing was changed every 24 hours, after that once in two or three days. On the second day the temperature was normal, and never rose above this during the subsequent progress of the case. After the second dressing the discharge was purely serous, and had almost wholly ceased at the end of the first week. At the third dressing good vesicular respiration, with a few râles, could be heard to the base of the chest on the back, and to the level of the opening on the side. On the ninth day, I took off the dressing, meaning to remove the tube, but found that it had torn away from the safety pin and had escaped into the chest. On the following day, having procured a suitable pair of long curved forceps, I etherized the child, and after quite a protracted search succeeded in removing the tube. During this search about ʒ ij. of clear serum escaped from the chest. Another tube was inserted, and fastened by a silk ligature to the adhesive plaster, as well as held by the safety pin. No rise of temperature or other ill effect followed this exploration of the pleural cavity, and a week later, on April 6th, the tube was finally removed and the opening quickly closed. With the exception of a slight dulness below the point of opening, the sounds upon auscultation and percussion were now perfectly normal.

For the history of the next case, I am indebted to Dr. Knight and Dr. Amory, under whose care the patient was.

Case II.—J. M., a strong man of 29, was always well until September, 1879, when being run down by close application to business, he developed a peumonia of the right lower lobe. This confined him to the house for 14 weeks;

after which he returned to his business, but continued to be troubled by cough, with slight dyspnœa. He went South, but was immediately called back to attend to his business, and being still annoyed by the cough, etc., he again applied for advice, and was seen January 22d, by Dr. Knight, who found an effusion in the lower part of the right chest. Exploring this with an aspirator, he drew off a small quantity of fetid pus. A free incision was advised, and I was asked to make it antiseptically.

January 28th, we made an opening in the ninth intercostal space in the back, below and just outside of the angle of the scapula, letting out ʒ xiij. of fetid pus. The tubes were inserted, the chest syringed out with carbolic acid, 1 part to 80, and the antiseptic dressings applied. For a few days the dressing was changed once in 24 hours; after that, every second or third day. After the fourth or fifth dressing, the discharge was serous. The temperature rose to 100° immediately after the operation, but on the third day was normal, and continued so till recovery.

On the ninth day, the patient went into town (three miles) upon business, and on the tenth day, without advice, he spent twelve hours in the city. No ill consequences followed this imprudence, and from this time he attended to his business, going to town for five or six hours nearly every day. This constant exertion and movement retarded, no doubt, the full recovery, as after the discharge was reduced to about ʒ i. in the 24 hours, it ceased to diminish for ten days or more. In spite of this delay, however, the tube was removed February 27th, four weeks from the time of operation, and in five days the opening was closed.

March 3d, Dr. Knight examined his chest again, and found good resonance to the base in the axillary line and to the opening behind. Below the point of opening in the back it was dull. Respiration was good down to the opening in the back, and below that level in the axillary line. The

patient now went to North Carolina for two or three weeks, and rapidly gained flesh and strength. He continues perfectly well.

For the history of the next case I am indebted to Dr. Swift, with whom I saw it.

Case III.—The patient was a boy, 16 months old. About Christmas he contracted a cough, and began to lose flesh and strength. A month later the parents noticed that he breathed quickly, and could only lie on his right side. This condition of things continuing, Dr. Swift was called February 15th. He found the left side of the chest filled by a large effusion, distending it so that it measured 2½ c.m. more than the other. The heart's apex beat was below the right nipple. The temperature was 101°, pulse 140–150, and respiration 52. He explored the chest with his subcutaneous syringe, and withdrew a few drops of pus. The parents consenting, Dr. Swift operated on February 18th.

An opening was made in the eighth intercostal space in the axillary line, and the tubes inserted. Twenty-eight ounces of laudable pus were evacuated. The following day the temperature had fallen to 99.5, the pulse to 120, and the respiration to 32. The dressings were changed each day for about a week; after that, once in two or three days. On one or two occasions when clots appeared, the chest was syringed out with a solution of carbolic acid, 1 part to 80.

The temperature once reached 100°, but was usually 99° to 99.5. The discharge had ceased on the thirteenth day; the tube was therefore removed, and the opening rapidly healed.

Two months later, an examination of the chest showed the percussion and respiration normal throughout. The left side, which when it contained the effusion, measured 2 c.m. more than the right, was now found to be 1 c.m. smaller.

The next case occurred in the practice of Dr. Sullivan, of Malden, to whom I am indebted for the following notes.

Case IV.—J. E., a man of 33, was always well till the autumn of 1879, when in November he began to feel good for nothing, and noticed that he could not lie on either side with comfort. Early in December, he began to have a dry irritating cough, with some difficulty of breathing.

Dr. Sullivan saw the patient for the first time December 15th, and found a considerable effusion in the left pleural cavity, which steadily increased until it filled the whole side, and displaced the heart so that the apex beat appeared just below the right nipple. Soon after the effusion reached its height it began to subside, and in February the chest was free except at the base, where a slight dulness persisted. The heart had resumed its normal position.

He now suffered a slight exposure, and the fluid re-accumulated. This attack was accompanied by little or no cough, and slight dyspnœa. His temperature at first rose to 105°, but soon fell to nearly normal again. This effusion not subsiding as readily as the previous one, Dr. Knight saw the patient in consultation, and it was decided to tap the chest, and if the fluid were purulent to establish a free opening under antiseptic precautions. Dr. Sullivan accordingly aspirated upon two occasions, and obtained once ʒ viiss., and the other time ʒ xiss. of coagulable serum. At the second aspiration the withdrawal of the fluid caused a dragging sensation in the chest, and was stopped immediately upon the appearance of this symptom.

Early in May, without apparent cause, the patient had a chill, and the temperature rose to 103°, but soon subsided and remained normal in the morning, with an evening exacerbation to about 101°.

May 19th, Dr. Sullivan again aspirated, and this time obtained ʒ v.–vi., of laudable pus.

May 21st, I saw the patient with Dr. Sullivan, and operated as had been decided in the consultation with Dr. Knight. I made the opening in the sixth intercostal space

in the anterior part of the sub-axillary region. This place was chosen, because through this point Dr. Sullivan had drawn pus at his first puncture, while in his other aspirations in the back he had made several unsuccessful attempts before obtaining fluid, owing apparently to adhesions binding the lung to portions of the chest wall. These adhesions were also made evident by the dragging sensations which the patient experienced at the second aspiration, when a comparatively small quantity of fluid had been drawn. About ʒ viii.–x. of laudable pus escaped, when the opening was made; the tubes were inserted without difficulty, and the dressings were applied.

For four days the temperature remained at about 98° in the morning and 100.4° in the evening. The evening temperature then subsided to 99.6°. Since the twelfth day he has spent much of his time on a bed in a tent. He feels decidedly better for this, and his appetite, always pretty good, has still further improved. In going and coming between his tent and room, he goes over the stairs easily without assistance, which he could not do before the operation. In the past few days his temperature has, without known cause, risen one degree.

The discharge of pus, instead of disappearing rapidly in this case as it did in the others, continues up to the present time (the seventeenth day) to be between one and two ounces in the twenty-four hours. This is evidently due to the fact that the lung being tied down by adhesions and disabled by its long compression, is not able to expand and obliterate the cavity as rapidly as usual. That it is, however, slowly dilating, is shown by the constantly increasing area over which vesicular respiration is to be heard. Considering the long duration of this case and the obstacles to success, the gain in strength and flesh, with the gradual dilatation of the lung, are certainly gratifying.

In looking over the literature of the subject, I find sur-

prisingly few cases reported in which this plan of treatment was followed. In the German Journals I have found ten such cases, which I will read to show the duration of treatment from the operation to recovery.

	Reported by	Sex.	Age.	Duration of disease before operation.	Tube Removed.	Remarks.
1.	Wagner.	Male	27	2 months	In 40 days	
2.	Wagner.	Male	36	2 weeks	In 31 days	
3.	Wagner.	Male	44	2 weeks	In 51 days	Two cavities requiring two separate openings.
4.	Wagner.		5	6 weeks	In 9 days	
5.	Göschel.	Male	1		In 3 weeks	
6.	Göschel.	Female	3½	4 weeks	In 30 days	
7.	Göschel.	Male	3¼	4½ months	In 3½ months	Child running about with dressing, the tube constantly slipped out.
8.	Göschel.	Male	4	1 month	In 4 weeks	
9.	Krabbel.	Male	10	1½ months	In 1 month	
10.	Krabbel.	Male	25		In 2½ months	This patient had phthisis when empyema developed.

In these cases reported by German observers, absence of fever and quick and complete recovery are noticeable features.

In one of them, a child of five recovered in nine days. This case was treated as an out-patient, and brought each day to the Hospital to have his dressing attended to.

Case 10 is interesting, for the fact that the man was suffering from phthisis in both apices at the time that the empyema appeared, in spite of which, however, the cavity was closed at the end of two and a half months.

These cases present, I think, a fair array of the difficulties

which one is likely to meet in this operation. The results recorded must be looked upon as very creditable. As the details of the dressings are better understood, the duration of the treatment may no doubt be still further shortened.

The main advantage which this method offers over the treatment by aspiration, is the entire removal of the pus from the chest. No matter how thoroughly the aspirator is used, a certain amount of pus and purulent fibrin must be left; this usually makes itself known at once, by its irritant action causing a rapid re-accumulation of the fluid, which must be drawn off again and again, till finally, when the more radical operation is decided upon, the patient is worn out, and the lung is so fastened by adhesions and disabled by compression that it expands but partially and slowly, thus greatly prolonging the closure of the cavity. In those few cases where, after drawing off the pus one or more times, a re-accumulation does not occur, the residue which is left is partially absorbed, and remains as a cheesy mass to act as the focus for a future general tuberculosis, or by its direct irritation and pressure to originate local inflammatory processes in the lung.

It is claimed, however, that aspiration exposes the patient to less immediate danger than the free incision. As a fact, the fever after a successful antiseptic operation is less than ordinarily after aspiration, and the patient in a few days so regains strength as to be about in the open air. The only real danger is that the dressing will cease to be antiseptic, and this is to be avoided by proper care on the part of the surgeon.

We must remember that the cases of cure by aspiration which are reported, and which encourage us to continue temporizing with this less radical method of treatment, are the few successful cases among a very large number of unsuccessful ones of which we hear nothing, and even they are incomplete, in that we cannot ascertain their

subsequent history, and learn whether the cheesy residue left in the chest has ever given rise to further trouble. Most of these successful aspirations, too, occur in children, who as a rule do well with any operation, and recover with remarkable rapidity after the antiseptic incision.

The aspirator will ever remain an excellent means of diagnosis and of palliation in cases unfit for operation, as in advanced phthisis; but the considerations I have offered make it seem to me doubtful whether aspiration is wisely relied on as a curative measure in empyema.

DIPHTHERIA, AND THE RESULTING PARALYSIS.

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DIPHTHERIA, AND THE RESULTING PARALYSIS.

We desire to call attention to the poison of Diphtheria, and afterwards to some points relating to the origin and peculiarities of the resulting Paralysis, which are lightly touched upon by English authors.

One of the theories of present interest in regard to the subject of Diphtheria is, that its origin may be in one poison common to several zymotic diseases, as scarlet fever, measles, typhoid and puerperal fevers, and others. Two or three years since there appeared in the London Practitioner a paper in which the author endeavored to show that zymotic diseases did not always breed true, but that the supposed various poisons of the different epidemic diseases uniting on one subject, might generate a disease partaking in part of the character of each of the original diseases.

As examples of this hybrid action are cited enteric fever modified by malaria, the simultaneous eruption of measles and scarlet fever on the same subject, and the various gradations of simple anginas usually preceding and accompanying diphtheria when epidemic. The general tenor of the paper indicates that the author's mind was turning in the direction of unity of poison, and prepared the way for others who have since expressed more positive opinions. In June, 1879, Dr. Griffiths published a paper in the Obstetrical Journal showing the unity of origin and virus in this class of diseases. This doctrine of identity of poison and

differentiation of resulting phenomena is borne out, he says, by therapeutical and clinical facts; for example, the entirely different action of iodide of potassium, ipecac, opium and mercury in different persons, and different methods of administration. Also in the vegetable kingdom, the same analogy exists, and from the same soil poisonous plants develop, side by side, with those most innocuous. Thus there is no outrage against nature or its laws. Frequently, directly after a case of puerperal fever, will appear, in the family or among the attendants, erysipelas, diphtheria, scarlet fever, or sore throat, which is to be explained by exposure to one poison, whereby all are simultaneously affected, which Dr. Griffiths thinks is generated, not anto-genetically in the mother in the first place, but is hetero-genetic in all. We have noticed several instances which go to prove the correctness of this doctrine of unity.

During a complete absence of scarlet fever from the vicinity, after contact with a severe case of erysipelas following an injury, a boy of eight years was attacked with vomiting, headache, high fever, redness and swelling of the fauces, followed by the characteristic eruption of scarlet fever, and after convalescence by complete desquamation including the palms of the hands and the soles of the feet. There was no probability of other exposure, and as far as one case can show anything, the connection between the two cases was very closely evident. Hospital sore throat, so frequent among house surgeons exposed to erysipelatous wounds and hospital air, is another instance of the possible unity of poison with a differentiation of symptoms.

For several years in our vicinity diphtheria has been epidemic, and a large number of cases have yearly occurred until the spring of 1879. During this period there has been no epidemic of other contagious diseases, sporadic cases of scarlet fever, measles, whooping cough, etc. occasionally appearing. For the last twelve months scarlet fever has

been epidemic, and during the latter part of the time measles to an unusual degree. The disappearance of diphtheria signalized the appearance of the epidemic of scarlet fever, and during its continuance there has been an almost complete absence of the former. When the scarlet fever began to decline, measles were very prevalent, and on its ceasing to become epidemic, cases of diphtheria more frequently appeared. It seems allowable to suppose that the general conditions favoring the presence of diphtheria were the same as for a long period, and, in point of fact, the sanitary condition of the vicinity was more favorable to its continuance, owing to over crowding of tenement blocks; as also to conclude that the poison simply presented different manifestations or symptoms. The reasons for this view may not be clearly demonstrable as yet, but the clinical evidence renders inquiry in this direction pertinent.

During the epidemic referred to, we saw several cases which bear upon the subject. In three such the eruption of scarlet fever covered the body while the arms were covered with the blotches of measles, the tendency of which to arrange themselves in the form of a crescent was very noticeable, illustrating unity of poison, and the existence of the two diseases simultaneously—which is admitted to be possible—or the hybrid nature of the disease. We claim that there is as much reason for believing the result to be due to one poison as that the two co-existed.

In March of the present year, we saw two children of the same family, one two and one four years old, who were never out of each other's sight, and who were exposed to the same conditions in every respect. The younger was attacked with the usual symptoms of diphtheria with extensive diphtheritic exudation, covering both tonsils and the posterior wall of the pharynx, which came off in shreds after four days. There was no redness of the skin at any time. The elder followed in a few hours with scarlet fever, the

eruption appearing on the second day. There were redness of the fauces, and swelling, but no exudation. In another instance, in a block exposed to the effluvia of an overflowing vault, typhoid fever and diphtheria appeared in close conjunction. Mention is made in the British Medical Journal of cases showing the same unity, and with more than ordinary proof of their illustrative force, as they occurred in an isolated place. Previous to the outbreak no cases of typhoid fever or diphtheria had occurred for a long time; suddenly within a week ten cases of typhoid fever and six cases of diphtheria appeared. This took place in a small mining village, and in the houses built on the lowest ground. The ground was covered with a few inches of snow for weeks, during which time sewage of all kinds was thrown out of doors to be covered by the snow. After a sudden thaw exposing this filth, the outbreak occurred.

Cases like these have been noticed in sufficient numbers to warrant the assumption that the origin is in one virus. During an outbreak of diphtheria every variety and degree of severity of sore throat usually accompanies it, often covering a large territory in a very short time, precluding the possibility of personal infection in all cases, which indicates that diphtheria may originate from filth or other causes, without a virus which will produce only a single, specific disease.

While in any particular instance it may be hard to prove the failure of contact with a specific poison, the cases mentioned, the number of which might be increased from various sources, show collectively the possibility of an interchange of symptoms, with one septic poison. If the origin of these various diseases may be in one poison, the practical value of such elimination of causes shows itself in the adoption of less variety of treatment in the diseases as now classified, and lack of confusion as to what should be accomplished by the aid of medicine.

Again, the disappearance of diphtheria endemic for years, and the substitution of scarlet fever, in a compact city where contact with a specific poison must be of daily occurrence, is a weighty argument in favor of such unity, and overbalances the objection brought forward in individual cases, of possible exposure to a specific virus. Thus we regard it as by no means settled that such special germs are necessary to produce each, so called, specific disease.

Paralysis.

Although paralysis as a sequel of diphtheria was noticed in the last century, no accurate representations of its course and frequency were attempted until 1864, by Maingault.

The observations of the various pathologists and clinicians who have written on the subject of the origin of diphtheritic paralysis at the outset are of interest; inasmuch as little has been given in English, and also as clinical facts may lead to their modification. It was first thought to be due to changes in the functions of the muscular fibres in the region of the pharynx, caused by the previous inflammation there. This does not explain how the paralysis extends to parts not primarily affected. This extension in such case would be due to a sympathetic connection with the throat. Von Graefe thinks diphtheritic paralysis arises not from the diphtheritic processes as such, but proceeds from the localization in the throat, and the extension of the irritation to the sympathetic, this irritation of the sensitive nerve fibres being induced by an abnormal activity of the vessels in the neighborhood of the affected parts. The objection to locating the origin of the paralysis in the primary disease of the throat is, that while in mild cases of angina the paralysis appears there first, in other severe cases it may be wanting and attacks the muscles in other parts of the body.

An instance of this is mentioned by Dr. J. J. Putnam, in a paper to which I am permitted to refer, and we have

seen one among the cases we have collected. The occurrence of paralysis after infection from an abrasion of the finger, as happened in one case, is also opposed to this view. Seitz mentions a similar case from inoculation of the arm during an epidemic: in six weeks there was paralysis of the palate and extremities, resulting fatally in fourteen days. There was no throat disease. Brétonneau considered the primary local paralysis due to the localization of the diphtheria in the pharynx, and the general paralysis to chronic blood poisoning. It has also been supposed that the tendency to the formation of emboli in the arteries is due to the altered conditions of the blood, and that the nerves in the vicinity, thereby deprived of their proper nourishment, become paralyzed. Post-mortem examinations, however, have not shown obstruction of vessels to be as regularly found as the frequency of paralysis would indicate to be necessary to prove such origin of the disease.

The anæmia which follows diphtheria is common to many other diseases not followed by paralysis, which militates against the views of Brétonneau and Trousseau, that blood poisoning is the cause of the paralysis. The nervous system presents a more promising field for the explanation desired. Some look to the central, others to the peripheral nervous system; for example, the paralysis was supposed to be due to an exudation in certain parts of the nervous system. Gubler attributed it to peripheral changes independent of the nerve centres. This view is commonly accepted by German and English writers. Weber accepts the theory that the localization of the diphtheria in the throat arises from an affection of the nerves in the part seized, extending through the nerves to the cord, as in traumatic tetanus. This change was a degenerative process extending to the cord, according to Senator. Charcot and Vulpian found the structure of the nerves changed, a granular degeneration in the medullary cylinder of the same, also fatty granular cells

were scattered between the sheath and the nerve fibres. Oertel saw a similar lesion in two cases of septic diphtheria.

Extended hemorrhages have been observed in the meninges of the brain, also in the medullary substance, in the medulla oblongata and spinal cord, and it has been further observed that hemorrhages at the point of union of the anterior and posterior roots of the spinal nerves had caused increased volume of the nerve substance, with discoloration and softening. Microscopic examination at the point of union showed similar changes to those in the nerve sheaths of the other parts of the body, as the throat and respiratory organs. Oertel also saw in the grey substance of the cord a large thrombus and many microscopic hemorrhages, parcicularly in the anterior horns. On the ciliary epithelium of the central canal he found a collection of cells which quite filled the passage, and extended through its whole extent. Beneath the epithelium lay an infiltration which had broken through the neighboring tissues. Seitz states, in his treatise on diphtheria, that through the changes found in the nerve centres and their membranes, it is possible to explain the disturbance of the nervous system, and the widespread paralysis, also that the varying extent and degree of the paralysis undoubtedly proceeds from the original local manifestation of the disease in the throat, extending to the nerve centres; the proofs being the primary appearance of the disease in the muscles of the palate and pharynx, and subsequent progress to other parts, also the preponderance of the motor paralysis about the surface of the diphtheritic exudation. The great frequency of paralysis in the throat when there was no general paralysis is commonly noticed, and would seem to bear strongly in favor of this view. The extension of the paralysis may be explained in the same way as the extension of an inflammatory affection of the nerves in their substance. According to Quain, the nerves of the soft palate and epiglottis for the most part belong to

the pharyngeal plexus, which is composed of three or four branches of the glosso-pharyngeal with branches from the pneumogastric and sympathetic. Along these nerves and the connective tissue which surrounds them, the lesion can progress above to the carotid plexus and ciliary ganglion, and below to the cardiac, and along the vagus to the spinal accessory, thence to the spinal ganglia and cord. The intense hyperæsthesia observed in several cases of diphtheritic paralysis by Greenhow, and the prominence of painful spots in the course of the nerves, lead him to look for the cause in an inflammatory process in the nerves, and he cites a case where he could observe a neuritis of the optic nerve. Dr. J. J. Putnam thinks that, as is the case with the metallic poisons, the nerve centres react differently towards the various morbid conditions of the blood induced by disease.

The question arises what the relation is between the diphtheria and the paralysis, whether it is specific in its nature, or similar to that which exists after other diseases which impoverish the blood.

After the publication of cases of diphtheritic paralysis, paralyses were also observed after simple angina, typhoid fever and other diseases. Within a year we have observed a case of paralysis after measles in a strumous child of nine years who had previously been attended for scarlet fever. Diphtheria with paralysis of the throat lasting for six weeks was followed in May, 1879, by measles with paralysis of the larynx, dimness of vision and dysphagia, lasting five weeks. If, as we believe, there is a unity of poison, the arguments in favor of a specific relation to that poison would have more force, although altered nutrition might be the cause in all of them.

The proportion of cases of paralysis probably varies with different epidemics, and the statistics are undoubtedly varied by the class of patients from which they are drawn. In private practice the per centage is larger, owing to the greater

mental development of the better class of patients, and the greater strain to which their nervous systems are subjected. In 1874, M. Mansard collected reports of 1017 cases of diphtheria in which the results were noticed. Paralysis occurred in 111 cases, or 10 per cent. In our vicinity, during a long period in which the disease was endemic, and with several hundreds of cases, very few were followed by paralysis, the whole number being not more than five per cent. One physician in another city, with an average of thirty cases yearly for several years, has not seen a single case. From six to ten per cent. is probably a fair average.

Other disturbances of the sensitive and motor nerves sometimes occur, and may be noticed in this connection. Convulsive movements of the head, which is turned from side to side, although the mind was clear, are mentioned by Seitz; also spasm of the respiratory muscles, in one case of which respiration seemed to stop. In one boy with paralysis of the larynx, a spasmodic coryza occurred every morning lasting ten minutes, with constant sneezing and flow of mucus. Mental disease is rare. In one case, in a girl of 14, with paralysis of the face, the brain was disturbed and temporary idiocy resulted.

Dr. Earle mentions a case in a woman of mental exaltation, with disturbance of ideas and want of coördination, which ended unfavorably. In another, with general progressive paralysis, there was permanent mental disturbance and imbecility. Seitz noticed mental disease three weeks after paralysis of the throat in a boy of 15. This case was relieved by ice and nourishment.

Disease of the vagus may accompany these paralyses, with vomiting, and irregularity, weakness and slowness of the heart's action. Six times out of thirty-nine cases reported by Weber, the pulse fell to sixteen a minute, with fainting, etc. Paralysis appears much oftener after diphtheria than after other acute diseases. In 1860, See published one

hundred and fifty cases, while Gubler found only thirty-three cases after all other acute diseases. Seitz found but three after a large number of cases of typhoid, and then only after long and severe attacks.

Fortunately the large majority of cases recover, and that too without much aid from medical science. In thirty cases of Seitz's, twenty-eight recovered, of which seventeen were children, three youth, and ten adults. Age seemed to have no influence on the duration, and little as regards recovery. In seven, paresis of accommodation remained. In three cases of a low grade it lasted longer than when the paralysis was more complete. In ninety cases of Maingault's twelve died, and nine out of seventy-seven mentioned by Reynolds. In some of these fatty degeneration of the heart, liver and kidneys was found.

Oertel gives the per cent. of mortality as from eight to ten. Of the twelve cases which we have collected, one died from inanition, the power of swallowing being gone, and no effort having been made to nourish the patient by a stomach tube, or by rectal alimentation. According to Oertel, death is usually due to some intercurrent disease, as bronchitis or pneumonia, or the effects of foreign bodies in the bronchial tubes, owing to accidents in efforts of swallowing.

We have collected twelve cases of diphtheritic paralysis, two of which we saw, and which represented about six per cent. of the whole number of cases. Five were in children, the remainder adults. Of the adult cases, five were persons of sedentary habits, whose occupation was mental. Three were teachers, one a manufacturer, and one a professional man. In the latter there was some tendency towards paralysis, his father having had incomplete paralysis after typhoid, at the age of fifty-one, which was permanent. In this case, with general paralysis of the limbs, etc., the duration was three months. In one case of a child of three years, permanent paralysis of the internal rectus of one eye resulted,

and in one adult paresis of accommodation to some extent. In one case there was no affection of the fauces after the paralysis appeared in the extremities. In the adult male cases, it was noticed that the sexual organs were the last to be affected, and the first to recover their functions. The digestive organs in these cases performed their functions in a generally satisfactory manner, and a good amount of nourishment was taken and digested, which in the main constituted the treatment.

Recovery in these cases took place in from three weeks in one child, to nine months in a woman of forty. The fatal case has been referred to. Death took place in twelve weeks from the invasion of the paralysis. It is unfortunate that no effort was made to administer nourishment through a stomach tube, which has been successfully done in several instances. In two cases, after recovery severe lancinating pains in the joints and feet persisted for two or three months, and have been troublesome at intervals since. We were impressed with the probability that those whose nervous powers were most heavily taxed, were more liable to this sequel than the laboring class. Our cases seem to show this as far as they go, and it is also likely that in some a predisposition to paralytic disease renders the patients more susceptible. Recovery was apparently aided by the administration of strychnine, and the faradic current applied after no new sets of muscles were invaded.

PYÆMIA OF DOUBTFUL ORIGIN; APPARENTLY "SPONTANEOUS."

By CHARLES H. COOK, M.D.
OF NATICK.

READ JUNE 8, 1880.

PYÆMIA OF DOUBTFUL ORIGIN; APPARENTLY "SPONTANEOUS."

In the "Transactions of the Pathological Society of London" for the year 1879, is the report of the Committee appointed by the Society to investigate the Nature and Causes of those Infective Diseases known as Pyæmia, Septicæmia, and Purulent Infection.

One feature of the report is an "Inquiry whether Pyæmia and Septicæmia can be sharply defined from each other."

The authorities cited under this head may be divided into three classes :—

(1.) Those who recognize no essential difference between septicæmia and pyæmia.

(2.) Those who distinguish between septicæmia and pyæmia, but recognize only one form of septicæmia; and even they differ among themselves as to whether septicæmia is or is not an infective disease.

(3.) Those who define sharply between septicæmia and pyæmia, and also recognize two separate and distinct conditions as existing, to which the term septicæmia is applied; to distinguish these two conditions they would employ the terms used by some of the German writers, and give to one the name of septic or putrid intoxication, and to the other septic or putrid infection.

Another feature is the careful study of the records of seven hundred and sixty-eight cases of pyæmia and septicæmia which occurred in the principal London hospitals

during the ten years preceding. As the results of the study of the records of these cases, together with an analysis of the views of the authorities cited, the committee present a "summary," from which I make the following extracts.

"It would seem probable that the diseases known clinically as pyæmia and septicæmia may be grouped as follows:—

(1.) "*Septic Intoxication.* The effects of poisoning by the chemical products of putrefaction. A non-infective disease.

(2.) "*Septic Infection.* A general infective process arising from the introduction of some peculiar constituent of putrid matter into the blood stream. It is supposed by some to be due to the multiplication of living organisms in the blood, and by others to the effect of a non-organized ferment. It terminates fatally without secondary inflammations.

(3.) "*Pyæmia* (for want of a better name). An infective process, probably similar in nature to septic infection, but differing from it in giving rise to local inflammations and suppurations, often complicated by thrombosis and embolism, possibly due to the blood condition. . . .

(9.) "A group of obscure cases, in which it is impossible to form any idea as to their exact nature, often called spontaneous septicæmia or pyæmia."

Of the seven hundred and sixty-eight cases before referred to, four are recorded under the head of Spontaneous Septicæmia and Spontaneous Pyæmia.

Concerning these cases, the committee say: "Under these names have been described certain rare and obscure cases, in which symptoms analogous to those of septic infection and pyæmia have arisen without any discoverable local source of infection. Four such cases are briefly summarized in the appendix (Table XI.). None of these occurred during the course of the present inquiry. They are merely appended as illustrations of the disease in question. They are not

sufficient in number to justify any conclusions being drawn from them."

Before giving these cases I wish to read the history of a case which was observed in my own practice :—

On Thursday, December 26, 1878, I was called to see Mrs. H., aged thirty-three years, American, married, by occupation a bookkeeper, a lady of unusually fine physique and healthful appearance. Patient gave a history of general good health since childhood.

On the Saturday previous to my visit she felt symptoms of a severe cold, and on Saturday evening "took a sweat," which was repeated on Sunday evening. On Monday and Tuesday she went to her place of business, walking with great difficulty because of lameness involving the muscles of the hips, thighs, and legs, especially those of the right side. Tuesday night had a severe rigor. Wednesday—Christmas day—remained in-doors ; lameness unimproved. Thursday morning, the time of my first visit, the patient, who was in bed, exclaimed, "Doctor, my right leg is practically paralyzed ; I cannot move it." Examination revealed extreme tenderness of the muscles of the right hip, thigh, and leg, but passive motion produced no pain at the joints. There was no history of contusion or injury, no discoloration of the skin, no swelling, no œdema. There was tenderness, but in less degree, of the muscles of the left hip. Patient complained of pain and distress in the præcordial region, but physical examination revealed nothing abnormal about the heart. Pulse, 100 ; temperature, 102.5° F. ; respiration, 34 ; was menstruating. On Saturday, December 28th, there were indications of disturbance in the right lung ; no material change in other respects. On Monday, December 30th, the patient was able to move the right leg without difficulty ; there was no tenderness on pressure except in the region of the right hip. Physical examination revealed dulness, bronchophony, a few subcrepitant râles,

and increased vocal fremitus over the lower lobe of the right lung. There was no cough, no expectoration, no pain in the right chest. The præcordial distress had disappeared. Since the previous Thursday the pulse had varied from 100 to 110, temperature from 101.5° to 103.5° F., respiration from 32 to 34. On Wednesday and Thursday, January 1st and 2d, 1879, the pulse was 120, and the temperature 104° F. Patient unable to lie on either side since she was taken sick, because of the tenderness in region of the hips.

On the mornings of Friday and Saturday, January 3d and 4th, patient expectorated a small quantity of what seemed to be bright red fresh blood. Pulse and temperature falling.

Menstruation ceased after ten days: was of longer duration than usual, in other respects normal.

On the mornings of Monday and Tuesday, January 6th and 7th, there were repetitions of the bloody expectoration. The pulse on Tuesday morning was 80; temperature normal.

Thursday, January 9th, pulse and temperature the same as on Tuesday; tongue clean; patient sat up nearly an hour, and took solid food with relish. There was still tenderness in the region of the hips, especially of the right hip, but no fluctuation.

Saturday, January 11th, the pulse was 100, heat 100° F.; there was no relish for nourishment. Two spots, resembling erythema nodosum, had appeared on the middle third of the right thigh, external aspect. There were similar spots on the anterior and external aspects of the left thigh; one also below the knee, antero-internal aspect.

Tuesday, January 14th, the pulse was 110, temperature 101° F. No albumen in urine; no cough; no expectoration since Tuesday morning, January 7th.

Thursday afternoon, January 16th, patient had a severe chill, almost a rigor, followed by profuse perspiration.

Friday, January 17th, there were repeated chills and perspirations. On Friday evening I learned that extreme dysuria had been present for twenty-four hours, the nurse having kept silence at the urgent request of patient. Made investigations as to the possibility of any uterine disturbance sufficient to account for chills, perspirations, and dysuria, but with negative results.

Saturday morning, January 18th, the condition of the patient was but little changed, except that the dysuria had been almost entirely relieved. In the afternoon Dr. Ellis saw the patient in consultation. Dr. Ellis has kindly furnished me with a copy of his notes of the case, made at the time :—

"Ill-defined dulness over the lower third of the right lung. Some subcrepitant as well as sonorous râles on full breath or coughing, but nothing very distinct. Complains mostly of pain in the hips, and says there is nothing wrong above the latter.

"Looks pretty well.

"Heart normal.

"The dark red portions of skin on the thighs are hard as from infiltration, and in the left thigh is felt an induration beneath the skin, with no redness of the latter.

"Great hardness on pressure over the the hip-joints.

"It seems probable that the soreness is owing to some deep-seated inflammation.

"The character of the pulmonary disease is such as to suggest embolism or pyæmia, but the source of this is not so clear.

"The dark red or purplish spots are probably attributable to the same cause, and abscesses will be likely to form here.

"The case will probably terminate fatally."

Monday, January 20th, received the following report of examination, made by Dr. Townsend, of sample of urine voided the day before :—

" Specific gravity 1010; reaction feebly acid; pus abundant; one cast only seen; some doubtful fat corpuscles."

There was a gradual increase of unfavorable symptoms during the following week. Pulse varied from 100 to 130; temperature from 100° F. to 103° F.; chills and perspirations continued. The discolorations on the thighs assumed more the aspect of tumors, becoming elevated above the surrounding tissues. There was fluctuation, the last of the week, in the tumor below the left knee.

On Friday, January 24th, I received a letter from Dr. Ellis, containing report of examination, by Dr. Cutler, of sample of urine. Dr. Ellis wrote as follows:—

"The examination of the urine does not prove much, but is suggestive as far as it goes. Specific gravity 1012; acid; urea deficient; a trace of albumen; pus corpuscles; vaginal and vesical epithelium. There is no more albumen than the pus would account for, but the low specific gravity and the diminution of urea make me suspect that unless the quantity of urine were quite large something more will be found later.

"The persistence of the symptoms makes me feel still more strongly that we may be correct in our diagnosis. I have not yet found an exactly parallel case, but as far as the evidence goes it confirms the view expressed."

On Sunday, January 26th, Dr. Hosmer was called in consultation, and found the general condition of patient much the same as when Dr. Ellis saw her. There was no fluctuation in region of right hip. Introduction of exploring needle in tumor below the left knee revealed pus. Dr. Hosmer's opinion as to the obscurity of the case fully coincided with that given by Dr. Ellis.

During the week following patient gradually failed. Pulse ranged from 120 to 140; temperature from 100° F. to 104° F. The last of the week there was pitting upon pressure in the region of the right hip, but no fluctuation.

Sunday, February 2d, Dr. Hosmer saw the patient again. It was decided that there were not sufficient indications of pus about the right hip to warrant the introduction of an exploring needle.

Two days later, Tuesday, February 4th, patient was seen in consultation by Dr. Patch, who concurred fully in the opinions of Drs. Ellis and Hosmer.

During the succeeding week the pulse ranged from 130 to 160; temperature from 100° F. to 105° F. There was slight delirium at times and occasional incoherence on first awaking from sleep. Patient died on Wednesday morning, February 12th, seven weeks from the time of my first visit.

The autopsy was made by Dr. E. G. Cutler, and the following are his notes:—

Autopsy, thirty-one hours after death. Rigor mortis was marked. The body was not emaciated. Miliary sudamina were found thickly scattered over the chest, not extending over the abdomen. The belly was much distended by gas. There was a slight icteric hue of skin, and the conjunctivæ were yellow. In the middle third of the left thigh anteriorly there was a tumor in the skin about the size of the fist, which on being opened was found to be an abscess involving the skin and burrowing between the muscles of the thigh. There were two or three similar but smaller tumors on the upper third and external side of the left thigh. A small circumscribed abscess was found at the junction of the fourth costal cartilage with the sternum on the left side, involving the cartilage and perichondrium.

The heart was of normal size, its color somewhat pale; the right side was distended with dark, loosely coagulated blood, and the left side was fully contracted. The tissue was rather friable than normal, and on section the muscle had a fatty appearance, in the musculi papillares. A microscopic examination confirmed the gross appearances, the fibres being found to be fatty. All the valves were healthy.

The innermost sheath of the intima of the aorta contained numerous small spots of fatty degeneration.

There was an old pleural adhesion on the left side at the lower portion of the upper lobe. On section considerable fluid was found in the alveoli, having an acid odor and a brownish color; the bronchi were discolored posteriorly and stained of the same color as the alveoli, and it was evident that the fluid was part of the contents of the stomach pressed out by the gaseous distention of the intestines. In the right lung there was a recent pleuritic adhesion over the posterior and middle portion of the lower lobe; and on section of the lung at this point there was found to be a small abscess containing about a drachm and a half of pus. The boundaries of the abscess were a little obscured by softening dependent on the presence of fluid and consequent digestion, just as was seen in the other lung. On slitting up the pulmonary artery an embolus was found corresponding to the location of the abscess.

The spleen was of normal size, a trifle pale, and the pulp soft. The trabeculæ and Malpighian follicles were normally distinct.

The stomach and intestines were normal.

The left kidney contained a wedge-shaped abscess in the cortex at its upper extremity. The tubules were universally cloudy and the Malpighian bodies injected. There was an abscess in the right kidney near one of the pyramids considerably larger than the one in the other organ.

The liver was of average size; its color was yellow, and the acini appeared fatty. On microscopic examination there was found to be extreme fatty infiltration and some fatty degeneration of the hepatic cells.

The cervix uteri was found to be shortened and strongly anteflexed by old cicatrices; it was otherwise normal. There had been old pelvic peritonitis, which had bound the ovaries and Fallopian tubes into a confused mass.

The right buttock was found to be a bag of pus; the ilium was denuded over a space half the size of the palm of the hand, and the periosteum gone, though the bone was not roughened. The muscles were shreddy. No source of pus was found; there was neither caries nor necrosis of any of the bones, and there was no evidence of contusion.

Three of the cases reported by the committee of the London Pathological Society are in substance as follows:—

Case I. Male, age forty-eight. Was taken with shivering on coming out of a hot room. Later on, cough, frequent rigors, night-sweats; bowels regular.

On three different dates was nearly well, but relapsed soon after. Was admitted about two months after first attack, with above symptoms and pain in back of head, neck, and calves; pulse 114; liver dulness slightly increased. There appeared an eruption like impetigo on legs; about twenty hard, inflamed, cutaneous lumps on each leg, size of peas; some suppurating, red raised patches, size of crown piece, on fore-arm; blood extravasated in some of suppurating points; constant delirium; glans penis apparently gangrenous. Died ten weeks after invasion.

Autopsy. Bullæ on face, legs and arms; purple, with areola. Several small abscesses in the muscles of the fore-arm. Larynx: ulceration of membrane lining the ala of thyroid cartilage; patch made up of numerous minute purulent heads. Lungs intensely congested; contained numerous collections of minute abscesses, with distinct pyæmic characters; two or three larger accumulations of unhealthy pus, size of filbert. Glans penis infiltrated with pus.

Case II. Female, age twenty-one. Good previous health. Was taken with headache and cough, with slight expectoration, followed by languid pain in the chest and general aching; temperature high. Was admitted ten days after attack; a rigor; bowels regular. Next day two loose, dark-colored stools; twelve distinct rose spots; constant

delirium; loud systolic murmur. The day following, vesicular eruptions on fingers and toes and forehead, in some places pustular; temperature 104.8° F. Died.

Autopsy. Purple hemorrhagic spots at ends of fingers and toes; a few vesicles on front of legs, some becoming pustular; herpetic spots on scalp and forehead; slight ecchymosis under scalp, corresponding to the herpetic spots; small collections of pus in the brain under the visceral arachnoid, in the heart beneath endocardium, chiefly at upper part of right ventricle, in the mucous membrane of the intestines (nothing like typhoid ulcerations), in the cortex of the kidneys, mostly immediately beneath the capsule; effusion of blood into left hemisphere of brain and in cerebellum; two or three spots, mottled with yellow, beneath capsule of liver. Blood very fluid thirty-six hours after death.

I omit CASE III., as there was no autopsy reported.

CASE IV. Male, age forty-eight. Cough three months. February 28th, severe rigors. Admitted March 3d. Jaundiced; liver dulness increased; temperature 103.8° F.; abdominal pains; purgatives; jaundice diminished; severe cough. No change for several days; jaundice then increased; emaciation. Four days before death sordes, profuse sweating; red flush on hands and wrists.

Autopsy. At the base of right lung was a small circumscribed area of "secondary pneumonia;" congestion of mucous membrane. Liver large; lobules distinctly marked out. Joints: pus in left sterno-clavicular and wrist joints.

In the *London Medical Record* for June 15, 1879, are epitomized the reports of a series of five cases of "spontaneous septicæmia" which have come under the observation of Leube, and which he published in a German medical journal.

The two most interesting of these cases I have copied:

CASE III. A lad, aged nineteen, suddenly became un-

conscious. Slight excoriation on the nose; herpes of the left hand; the urine contained much albumen and numerous cylinders; both epididymes were enlarged, and felt hard and nodulous; the optic nerves and the veins of the retinæ were hyperæmic; there were extravasations in both retinæ. The temperature rose to 40.1° C. Later on Cheyne-Stokes's respiration set in, and the patient died in three days.

"*Necropsy.* Ambilateral cheesy epididymitis; a softened thrombus in the left epididymis; miliary metastatic bacteritic foci in both kidneys, and cheesy degeneration of the apex of one of the pyramids; metastatic miliary foci in the myocardium; bacteritic growths on the bicuspid valves; metastatic miliary foci in the mucous membrane of the pharynx and larynx, the large intestine, the conjunctivæ palpebrarum, and the membranes of the brain; diphtheritic inflammation of the inner coat of the ileum; tumor of the spleen."

"CASE V. A servant-girl, aged seventeen, was suddenly taken ill with rigor, subsequent fever, profuse perspiration, and pains in the right shoulder-joint. The latter was tender to pressure. A systolic murmur could be detected over the heart; the temperature was high. A few days later, she became comatose; some of the muscles of the eye were paralyzed; a bloody extravasation was seen, first in the left retina, later on in the right; the dulness of the heart was enlarged; death ensued a week after she had first felt ill.

"*Necropsy.* The spleen was slightly enlarged; diffuse suppurative meningitis; pleuritis on the left side of the thorax; bacteric endocarditis of the central valve."

Leube states that "spontaneous septicæmia may easily be mistaken for uræmia, meningitis, or miliary tuberculosis, although neither of the latter affections entirely resemble it in every respect. Characteristic symptoms are the rigors and high temperature, which set in suddenly without any

prodromi, as well as the profound alteration of the nervous centres. The eruptions on the skin are also very important diagnostically, especially as they occur constantly, which is not the case with the hemorrhages in the retina."

In the London *Lancet* for March 20, 1880, is a clinical lecture on "Ulcerative Endocarditis with Embolism of Brain," by Henry Thompson, M.D., in which he says: "Its consequences are embolism or blood infection, or both together. . . . I am bound, however, to warn you that by many authorities ulcerative and infective endocarditis are regarded as commensurate and synonymous terms. Nor is this all. Pathologists have brought to light the so-called material of infection, the presumed blood poison itself, in the several shapes of micrococci, vibriones, bacteria, leptothrix-filaments, and the like,—a motley assemblage of molecular organisms, which may be briefly designated microzymes. . . . Unfortunately no one can tell where these strange beings are born, whether *within* the heart or *behind* the heart, in the course of the circulation; whether they are indigenous or exotic, central or peripheral, in origin. Cases are on record which one would unhesitatingly refer to an extraneous source. On the other hand, there are undoubted examples where no distant point of departure was *discovered*, but in this connection it must be borne in mind that the same thing is true of unequivocal pyæmia. Over and over again, you know, in pyæmia we find no aboriginal focus of infection, whether anything of the kind exist or not.

"In all my own more recent cases, three in number, post-mortem examination revealed nothing to warrant the assumption of an extraneous source."

I have given the records of certain cases of pyæmia and septicæmia which are classed by some authorities as "spontaneous" in their origin.

In my own case the possible causes, such as bad air, im-

pure water, defective drainage, tainted food, previous poor health, were all thoroughly investigated, with negative results.

These histories seem to justify the belief that cases of pyæmia and septicæmia occur in which the cause cannot be traced. The word "spontaneous" indicates that the origin cannot be explained, but does not necessarily commit one to the belief that there was a "spontaneous generation."

Further than this I have no theory to offer in regard to these cases; they are still too few in number to warrant any conclusions being drawn from them.

My desire in the presentation of this paper is that it may elicit discussion now, and the publication, hereafter, of other cases similar in their history.

IMPORTANCE OF EARLY RECOGNITION OF EAR DISEASE.

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READ JUNE 9, 1880.

IMPORTANCE OF EARLY RECOGNITION OF EAR DISEASE.

ALTHOUGH the term modern may be with justice applied to almost the whole of our pathological knowledge, it is still more applicable to our acquaintance with the changes produced by diseases in the ear, for before the time of Toynbee (1840–1866) but few attempts had been made to determine anatomically the variations in the tissues which resulted from aural disease. Since that time, however, great progress can be claimed not only in the grosser pathological anatomy, but also in the pathological histology of the tympanum and its conducting apparatus, and this, with our increased appreciation of the physiological functions of the different parts of the ear, and improved methods of examination, gives a basis for the clinical study and treatment of the diseases of that organ which compare favorably with that used for almost any other organ. The cloud of mystery which formerly involved the diseases of the ear is rapidly dissolving, and deafness can no longer be spoken of as a disease, but merely as a symptom capable of explanation from pathological tissue changes which interfere with well-known and well-established physiological and physical laws.

Notwithstanding the very decided advance in our knowledge of the normal and pathological physiology and of the pathological histology of the tympanum, the fact, however, remains that many diseases of the ear and of the tympanum itself, as they are presented to the practitioner, are either

irremediable or capable of but partial improvement, and to some of the reasons for this intractability attention is asked in a general way in this paper.

According to our present knowledge, the tympanum, including the drum membrane, the chain of ossicles, the cavity itself, and the secondary membranes leading to the labyrinth, with their muscular and nervous adjuncts, are the most frequent seat of disease, and the majority of the pathological changes which have been found on dissection as occurring in these parts may be classified under the three heads of hypertrophic, adhesive, and destructive processes. Of hypertrophic and adhesive processes in general it may be said that from their very nature they require time, and usually a long time, for their development; although the same remark is not so strictly applicable to the destructive processes, as it is well established that rapid ulceration and destruction may occur, still, the viability of tissues, and especially of tissues having an important physiological function to perform, like those of the tympanum, is so great that even these may be considered relatively slow, although they take place much more rapidly often, than either of the other two changes. Of all these processes it may be said that they are secondary to some variety of inflammation, and are rather the results of disease than the disease itself. Clinical investigation may fairly claim to have traced these pathological changes to their origin, and to have established the fact in regard to the ear which general pathology has established in regard to such processes in general, namely, that they are the result, as has just been stated, of inflammation in the tissue in which they are found.

All of these inflammations are varieties of inflammation of the mucous membrane of the tympanum, and the majority of them are either serous, mucous, or purulent catarrh of that membrane. The serous variety is characterized by hyperæmia, serous effusion, and œdema of the subepithelial

connective tissue, ending in perfect resolution and absorption, or else in general hypertrophy of the mucous membrane, or in adhesive inflammation, which is a very common result of this disease. In 1013 diseased ears Toynbee found adhesive inflammation in 202, or twenty per cent. The adhesion is brought about in the following way: by a change of position in the tissues, due either to swelling or to collapse of the drum membrane from closure of Eustachian tube, two epithelial surfaces are brought in contact; from the pressure the epithelium is destroyed, and the tissue becomes changed to granulation tissue, and by proliferation from the protuberances adhesion takes place, and the new tissue then undergoes cicatricial contraction. In this way broad or narrow synechiæ are formed, which, if they involve the important parts of the conducting mechanism, most seriously impair the hearing. With the general hypertrophy of the mucous membrane the conducting mechanism must be more or less involved, as it is everywhere covered with the mucous membrane.

With the mucous catarrh there is a universal hyperæmia of the mucous membrane, with a serous and cellular infiltration of the subepithelial connective tissue; the epithelium is retained; as the result of hypersecretion of the tubular and racemose glands of the tympanum, there is more or less free mucus mixed with triple phosphates and other crystals in the cavity. This condition is capable of complete retrogression, the membrane returning to its normally delicate and elastic condition; but when it passes into chronic catarrhal inflammation the cellular infiltration becomes organized; the membrane looks bluish-gray or white, is much firmer, stronger, and more vascular, from a varicose condition of the blood-vessels, and we have the thickening which, if it involves the conducting mechanism, very seriously impairs its functions.

The purulent catarrh is characterized by hyperæmia, enor-

mous swelling, and œdema of the mucous membrane, with a secretion of pus cells, granular corpuscles, granules, epithelium, and detritus. The swelling is due to enlargement of the blood-vessels, with cellular and serous infiltration of the connective-tissue stroma; the epithelium is destroyed. The disease is distinctly ulcerative, and may result in great destruction of tissue. It also is capable of complete retrogression, but it may result in hyperplastic processes, forming nodules, villi, and papillary growths; the abundant infiltration of round cells in the middle of the mucosa may become organized, or calcifications may occur. In addition to these tissue changes, irreparable destruction of important parts may take place, or caries or necrosis be produced in the bone.

Besides these pathological conditions from the three varieties of inflammation, still other tissue changes are described by Schwartze, which may result from these inflammations when chronic. In a small proportion of cases there is found a distinct connective-tissue sclerosis of the deep periosteal layer of the mucous membrane, showing tendinous bundles of homogeneous, brittle, opaque fibres in the deeper layer, while the subepithelial connective tissue remains normal. In still a larger proportion of cases the deep periosteal layer is impregnated with finely granular lime salts, and with spots of ossifying periostitis.

The influence of these tissue changes may be understood when it is remembered that the drum membrane, the chain of ossicles, and the secondary membranes constitute the connecting apparatus of the ear, and must necessarily be capable of the most delicate pendulum vibrations. If hypertrophy of the tissues covering this minute apparatus exists, the vibration previously able to cause a certain displacement of the conducting apparatus is no longer capable of producing the same effect; the pendulum adapted to tick half seconds cannot be increased in weight without changing the character

of its work. If adhesive inflammation has occurred, by which new bands and threads of tissues are formed between different portions of this same conducting apparatus, its vibratory power is interfered with. If destruction has taken place, the capability of vibration is much reduced.

Of hypertrophic and adhesive processes it may be said in general that, once thoroughly established, they cannot, as a rule, be removed—that is, if true hypertrophy has occurred and new fibres of tissues have formed, these new fibres remain as a part of the body; if true adhesion has taken place between two surfaces, those surfaces remain adherent. Certain it is that in the tympanum this is the rule; but in this small cavity, when either of these pathological processes occurs upon parts or the whole of the conducting apparatus, there is more to be feared than the simple weighing or binding down of the vibrating pendulum which results from the increased tissue or the adhesive bands. It is a characteristic of both these processes that they very frequently undergo gradual changes after the hypertrophy or adhesion has taken place; that the new tissue and the adhesions become firmer with age, undergoing what may be compared to cicatricial contraction, the result of which in the tympanum is a much greater interference with the vibratory power of the conducting apparatus than would be at first suspected from the mere increase in the tissue growth.

As the advance in our therapeutics has not kept pace with our pathological knowledge in regard to the tympanum (and the same may be said of almost every region of the body), the study of the earlier diseases which produce these tissue changes becomes of the greatest importance; for if the various forms of inflammation which precede and cause these hypertrophies, adhesions, and destructions of the conducting mechanism of the tympanum are as rebellious to treatment as these changes in the tissues are when they have once formed, but comparatively little can be expected, at least at

present, for the relief of many of the pathological conditions of the ear. Fortunately, however, such is not the case; the earlier and more acute forms of tympanic disease are as amenable to treatment as are similar diseases in other organs, and the principles of rational medicine can be as well applied here as elsewhere. Nature herself, in the way she cures innumerable ear-diseases, and without whose aid it is safe to say three fourths of the human race would still be suffering from imperfect tympana, has pointed out a method by which a cure can be effected; and in large numbers of cases where she herself is unable to relieve, assistance from art in the direction she has pointed out in other more fortunate cases is sufficient to restore the parts to their normal condition. To accomplish this, however, it is necessary to watch the course of the disease in its earlier stages, prepared to assist nature by art if necessary, and it is imperatively demanded that such assistance should be rendered before the irremediable tissue changes, already described, have taken place. The natural history of the various forms of tympanic inflammation thus becomes an all-important factor in the study and treatment of these diseases.

Unfortunately, many of the primary inflammations of the tympanum come on so insidiously and with so little inconvenience to the patient that the very slight symptoms which exist are ignored or soon forgotten, from the patient becoming accustomed to them, and it is only months or years even afterwards, when the tissue changes have made considerable progress and the interference with the functions of the ear has become so great as to produce inconvenience in the ordinary affairs of life, that relief is sought.

This ignoring of the earlier symptoms of tympanic disease, and the consequent neglect of treatment at the time when it could be of value, is one of the most prolific causes for the numerous unfavorable prognoses which must be given when the sufferer applies for relief. Not infrequently it happens

that the patient denies absolutely that any symptoms have preceded the existing deafness, but in so many cases close questioning will develop the existence of this or that symptom, often so long before as to have been forgotten entirely, that it seems probable that in almost all cases there were originally some antecedent warnings. The following could be taken as a very common example: the patient gives a history of gradual deafness, without subjective noises, of six months' duration, and denies absolutely any preceding disease in the ears. Examination shows a drum membrane generally opaque from thickening in its mucous layer, very considerably retracted and immovable, the Eustachian tube closed tightly. Inquiry elicits the fact that three years before he does remember that, with a very severe cold, the ears felt tight and full, and there were for a time violent subjective noises which ceased gradually; that he regarded it as "nothing but a cold;" now that you ask him, however, he remembers this or that circumstance when he suspected a little deafness much longer ago than he had at first stated. The facts evidently are that three years before, with an acute catarrhal inflammation of the naso-pharynx, the mucous membrane of the Eustachian tubes and tympanum was also inflamed; the trouble of the naso-pharynx passed off, but the mucous membrane of the tympanum remained congested and swollen; as the result of this continuous inflammation hypertrophy of the membrane has occurred and increased, till it has most seriously impaired the hearing.

Or, again, another very common history is that the patient has been subject to slight deafness with each cold in the head for a number of years, till finally the deafness has become so marked as to be a serious inconvenience. Then, and not till then, relief is sought, and examination showing very decided tissue changes, the prognosis is necessarily much less favorable than it would have been in the preliminary

stages of inflammation. In children it frequently occurs that examination shows the drum membrane completely collapsed against the inner tympanic wall, and firmly adherent to this wall, so that it cannot be separated; or else it is retained in its abnormal position by inflammatory retraction of the tensor tympani muscle and of the hypertrophied tissues, a condition originally produced by closure of the Eustachian tube, and which would in all probability have been removed by any of the simple methods of opening that tube, or even by a little judicious blowing of the nose, which, by relieving the obstruction of the blood-vessels and the consequent congestion, would have allowed nature to clear up the pathological products and would have restored the parts to their natural condition.

Another very common reason for ignoring the earlier symptoms of tympanic disease, even when they are very marked or possibly severe, is the slight improvement which often occurs spontaneously after a time, and which leads the patient to think that all trouble has been averted,—an improvement which is quite often fallacious in that it deceives the patient into a sense of perfect security, whereas it is simply a transition from the acute into the chronic inflammation. Such an improvement is seen often with acute catarrhs of the tympanum: the subjective noises and the pain cease after a time; the sense of fulness in the ear the patient becomes accustomed to, and it is forgotten; the obstruction of the Eustachian tube with the congestion and swelling of the tympanic mucous membrane, however, remain, and gradually produce the hypertrophy which months or even years after leads the patient to apply for relief from what has become, with the lapse of time, an incurable deafness.

Instances might be multiplied almost indefinitely of simple and remediable diseases becoming hopeless from these changes in the tissues, which have come on gradually as the result of preceding inflammation.

That the interference with the functions of the ear, the deafness, which appears as a rule gradually as the tissues become hardened and retracted, is not more frequently recognized in its incipiency can only be referred to a want of appreciation of what deafness is. Nothing is more common than to hear a patient or his friends say that he is not deaf, because he can hear what is said to him across a moderately sized room; they being apparently wholly ignorant of the fact that deafness consists in the inability to hear a sound of a given intensity or loudness at as great a distance as normal, and that, although he may hear a loud voice at a distance of twenty feet, he should, in a normal condition, hear the same voice at one hundred feet, in reality four fifths of his hearing for that particular sound being lost. The extreme limit of hearing power is but seldom used in the ordinary affairs of life, and as far as our daily business life is concerned we may each be said to be endowed with a large amount of superfluous hearing, which may be lost with scarcely any inconvenience to ourselves.

Again, the merciful provision of nature, which has endowed each of us with two independent organs of hearing, is often lost sight of in estimating degrees of deafness, it being forgotten that a person may be very deaf with one ear, and yet hear so perfectly with the other that the defect is not noticed. Indeed, the records of the consulting room show large numbers of cases where increasing trouble in the good ear is the cause of the patient first applying to the physician; and he is astonished, and often incredulous, at being informed that one ear has evidently been practically useless for a long time, and that the inconvenience he has been experiencing is due to more recent disease in the other ear.

It will be asked, What is the remedy for all this? How are these very serious results to be guarded against? The only answer is that, as the histological changes are, in the

majority of cases, irremediable in themselves, and as they are secondary to and the direct result of other diseases, the primary disease, for which treatment is often of great value, requires very careful attention. Symptoms, however slight, should not be neglected; the natural course of the disease, whatever its variety, should be understood, and its course watched; if necessary, local or general treatment should be used to assist nature; and, finally, the case should remain under observation till recovery is perfect, or as nearly so as the particular disease will admit. This latter point, the insurance of perfect recovery, is all-important, for a little remaining disease may be sufficient to produce the hypertrophy of the mucous membrane, which will go on insidiously for a long time before it is noticed by the patient.

To recognize and fully appreciate all of the minute changes which can be seen by the otoscope is undoubtedly a task requiring much time and practice; but the clinical histories and rational signs of the various diseases are well described in the numerous books on the ear; and in the tests of the hearing we have a very useful means, although not infallible, of judging how the disease is progressing. If more attention was paid to the degree of deafness, or perhaps it would be better to say of hearing, in the earlier stages of tympanic disease, there would be much less of the incurable secondary processes. By occasional careful testing, the gradual loss of hearing would be noticed almost as soon as it began, and the improvement which often follows well-marked acute disease would be by this means early discovered to be merely fallacious. The importance and the methods of applying simple tests for the hearing should be known to every practitioner. I have already called attention to the fact that a person may be extremely deaf in one ear, and yet with the remaining good ear hear so well that no defect is noticed; but I have known physicians themselves to say of such a case that they did not believe there could be any deafness,

simply because they had never tested the hearing of the two ears separately. It would seem superfluous to notice, but experience shows, that the failure to close one ear when testing the other, is a very common source of error. The first step in testing, then, should be the closure of the opposite ear with one finger.

Having done this, the open ear should be tested for the distance at which both the watch and the voice can be heard; not whether they can be heard at all, but whether they can be distinguished as far as normal. In regard to the watch, it should be remembered that the intensity of the ticking varies in different watches, and for comparative tests the same watch should always be used, and the normal distance established by tests on normal ears. It should also be borne in mind that the normal hearing distance for the ticking of a watch varies with age, being very much less in old persons than in children. With the voice the hearing distance should be established in the same way; but as it is generally impossible to get space enough to thoroughly test a clear, distinct tone, that is, as it is impossible, for want of space, to reach anything like the normal distance for that tone in ordinary houses, it is necessary to lower the intensity of the tone to make the normal hearing distance for that tone correspond, approximately at least, with the size of the room in which the test is made. Having done this, words or short sentences should be used, and the patient required to repeat them; for if this repetition is not insisted upon, many patients will assert positively that they understood, when they have merely heard the sound of the voice, but have been wholly unable to distinguish the words. It is also well to use a number of different words or sentences, as certain letters of the alphabet have much less distinctive sounds and are much less readily heard than others. If this caution of employing several sentences is used, how-

ever, it can scarcely occur that in each of them these difficult letters and sounds should predominate.

Having determined the distance at which both voice and watch can be actually heard, and knowing the distance at which they should be normally heard, the hearing for that case can be well expressed for practical purposes as a fraction, the numerator of which is the actual distance, and the denominator the normal distance. The necessity of testing for both watch and voice depends upon the fact that the hearing for the two is by no means always proportionally the same; while it may be very good for one, it may be very bad for the other. This is seen especially in the class of cases where the degree of hearing enables us to judge very fairly how the case is progressing, and whether any treatment for the restoration of the functions of the ear is absolutely necessary; these cases are those of acute tympanic inflammation, where, as the inflammation subsides, the hearing slowly returns, but much more rapidly, as a rule, for the voice than for the watch, so that it is found when the hearing for the watch is only perhaps $\frac{1}{60}$, that for the voice will be $\frac{1}{6}$.

In children the test for the watch is often uncertain, from fright, mischievousness, or lack of intelligence on the part of the patient, but that for the voice can generally be made effectual by a little ingenuity on the part of the physician in asking questions on subjects in which the child takes an interest, the answers to which will show that the question was well understood.

In all testing great care should be taken to exclude the imagination, which is not infrequently both active and ingenious in deaf persons. If such tests were in common use, it would often be found that the cessation of pain, discharge, and other well-marked symptoms did not necessarily imply a restoration of the ear to its normal condition; any deafness would be by this means discovered early, long before it

had begun to inconvenience the patient, and the question of treatment could be determined before the serious and irremediable tissue changes had come on, at a time when treatment is, in a large number of cases, of real positive value.

ARTICLE XXI.

MEDICAL SOCIETIES:

THEIR ORGANIZATION AND THE NATURE OF THEIR WORK.

BY J. COLLINS WARREN, M.D.,
OF BOSTON.

READ AT THE ANNUAL MEETING, JUNE 8, 1881.[1]

"THIS may be considered the birthday of medical honors in America," wrote the Provost of the University of Pennsylvania, in recording the first medical commencement held in its college hall on June 21, 1768, and the occasion did mark the beginning of a new era for medicine.[2] Two years before, a State Medical Society had been formed in New Jersey,[3] but with this and one or two trivial exceptions, no attempt had been made to organize or instruct medical men on this side of the Atlantic. Previous to this period, those who desired a medical diploma were obliged to seek it in the mother country; but out of the three thousand physicians then in practice, it has been estimated that not over four hundred had received the degree of M.D.

[1] At an Adjourned Meeting of the Mass. Medical Society, held Oct. 3, 1860, it was

Resolved, "That the Massachusetts Medical Society hereby declares that it does not consider itself as having endorsed or censured the opinions in former published Annual Discourses, nor will it hold itself responsible for any opinions or sentiments advanced in any future similar discourses."

Resolved, "That the Committee on Publications be directed to print a statement to that effect at the commencement of each Annual Discourse which may hereafter be published."

[2] Extracts from the *Life and Correspondence of Rev. William Smith, D.D.* By Horace Weymiss Smith, Philadelphia, 1880.

[3] The Delaware State Medical Society was not organized until 1776.

from a medical college.[1] Many of the practitioners of medicine were also clergymen, taking charge of the bodies as well as the souls of their patients.[2]

But the incubation period of two centuries was nearly over, and the work of organization and teaching had already begun. All classes in society were beginning to feel the quickening influence of the infant republic, which was soon to be added to the family of nations. In New England we were less fortunate than elsewhere; the means of obtaining a knowledge of medicine were more limited and deficient than in the middle and southern provinces;[3] but with the Revolutionary War came a demand for medical services, out of all proportion to that which had previously existed, while the establishment of military hospitals afforded an opportunity to study disease. As the tide of battle swept towards the South and the period of war was drawing to a close, the new order of things began to shape itself in this part of the country. The military combinations, which finally culminated in the surrender of Cornwallis, were already in course of development, and the final scenes of the military drama were rapidly following each other, when medical science in this State first crystallized into definite form.[4]

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[1] Contributions to the *History of Medical Education and Medical Institutions in the United States of America.* By N. S. Davis, A.M., M.D., Washington, 1877.

[2] *The Medical Profession in Massachusetts.* By Oliver Wendell Holmes, M.D.

[3] *American Medical Biography.* By James Thacher, M.D., Boston, 1828.

[4] "These societies were the principal agents in fixing the standard of medical education, and although after the establishment of medical schools, the diploma of one in good repute was accepted in lieu of an examination,

The Massachusetts Medical Society was organized by the better educated portion of the physicians of the State, for the purpose of establishing a standard of education[1] in the midst of the then existing chaos. No system of medical education had previously been observed in the State, and no means whatever existed of ascertaining the qualifications of candidates for the profession. A young man might pursue his studies in such a manner and for such a length of time as he saw fit, and then enter upon practice without examination or license of any kind. It necessarily followed from such a state of things, that a considerable number came into the profession who were altogether unqualified for its high responsibilities. Every new practitioner was an object of suspicion. The original plan contemplated the organization of an examining body, to determine the skill in their profession, and the fitness to practise it, of all candidates who should offer themselves for examination. It was intended that the successful candidates should receive the "approbation of the society," in letters testimonial of such examination. The members of this body, consisting originally of but thirty-one and limited to seventy,[2] were termed

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this was by courtesy rather than by law, and made it necessary that the standard of the schools should be at least equal to that prescribed by the societies." *A Century of American Medicine.* By John S. Billings, M.D. *American Journal of the Medical Sciences,* vol. lxxii. The American Academy of Arts and Sciences was established the year previous.

[1] "That a just discrimination should be made between such as are duly educated and properly qualified for the duties of their profession, and those who may ignorantly and wickedly administer medicine." (Act of incorporation, 1781) (in italics in the original).

[2] Acts of 1781. Section 6.

Fellows, whereas those who passed successfully its examinations did not become, as now, members, but were simply licentiates, or men announced by the society as fit to practise medicine. An election into this body was made honorary, and only conferred upon those who had arrived at some distinction in the profession. Some of the Fellows were distinguished members of other professions. It was formed somewhat after the model of the English educational bodies of that day, such as the Royal College of Physicians.[1] This arrangement did not prove popular; there was an unwillingness, on the part of those already in practice, to submit to the examination of the society or to acknowledge the supremacy thereof, without enjoying professional equality with the Fellows—such distinctions not being "in accordance with the spirit of the institutions" of the young republic. Accordingly in 1803, the number of professional men in the State having greatly increased, a radical change was made in the constitution of the society, an extensive correspondence having been instituted among its members in order to devise the best means of increasing its usefulness.[2] The plan was to embody the whole of the regular profession in the State, and by means of the authority derived from the legislature, to regulate the requirements

[1] Founded by Linacres, who died 1520. "That illiterate and ignorant medicasters might no longer be allowed to practice the art of healing." College of Surgeons incorporated March 22, 1800. The Royal Society was founded in 1645. An attempt was made about the year 1812 to incorporate a College of Physicians in Boston, but, being vehemently opposed, both by the society and the medical school, it did not succeed.

[2] *Communications Mass. Med. Soc.*, vol. v. Appendix, p. 27, 1831, vol. vii. Appendix, p. 142, 1848.

of a medical education, so as to elevate the general character of the whole profession. For this purpose the limit of numbers was taken off, and every licentiate after three years of practice was entitled to enrolment as a member.

In the acts authorizing this important change we find the first public mention of the Councillors, although they constituted the working body of the society from its beginning.[1] To them, at all events, were entrusted many functions previously performed by the Fellows. It was evidently intended by those who wrought this change that the governing body, although all members were now equal, should maintain that parental attitude towards the members throughout the State which the Fellows previously held towards their licentiates. They were chosen at the annual meeting, and exercised a general supervision over the affairs of the society. The election of all officers was in their hands, and it was left to their discretion to establish subordinate associations in such districts of the commonwealth as they might think expedient, or to subdivide or alter any of them whenever the public good might seem to require it; and it was expressly provided in this early act that "the members of such subordinate societies be holden to report to the Councillors of the general society all such cases as may be selected for their importance and utility," showing the purpose for which these societies were to be formed and the correlative duties which thus devolved upon them. The business of determining

[1] See vol. i. *Comm. M. M. S.* Officers for the year 1789.

the qualifications of any individual who might apply for membership was delegated to a board of Censors, but the Councillors were permitted to elect those in practice at the time of the act and for some time after, and also honorary members.

The Censors consisted at first of a single board of five members.[1] We find them mentioned in the list of officers under the original plan of organization. As new district societies were formed, additional boards of Censors were appointed.[2] In early time the Censors had great responsibilities forced upon them, for in 1817–18 general laws were passed by the State compelling the society to examine candidates for a license to practise, and depriving all who were not graduates of a school or licentiates of the society from legal privileges in collecting fees. In 1831, the clause requiring a successful candidate to practise three years before becoming a member was rescinded,[3] and in this year also the Legislature compelled the society to accept the graduates of Harvard as members, but subsequently, in the acts of 1836 and 1859, it was provided that the society should not be allowed to discriminate in favor of any institution, and that all applicants should be treated alike.[4] In the mean time, however, the State largely relinquished direct control over the practice of medicine, and

[1] Act of 1803, sec. 3.

[2] Although the Censors had power to admit, the "letters testimonial" must have upon them the seal of the society and the signature of the president and secretary. Act of 1803.

[3] About the same time the law allowing none but members to collect fees by legal process was repealed, a feeling existing in the society that such a special law worked to the detriment of the profession.

[4] *Boston Med. and Surg. Journal*, vol. vi., new series, p. 311.

as in the other professions gradually left it to take care of itself; since then the society has exerted its power for good in this direction solely through its influence upon public opinion and in maintaining a high standard.

The district societies owe their existence to the parent society. Their status was defined in 1803, as already indicated in speaking of the powers of the Councillors.[1] "Before 1850 there were district societies only here and there in the State established at irregular intervals. In 1850 the Councillors divided the whole State into districts, in each of which they established a society. An addition to the charter of that year gave to the district societies the privilege of choosing Councillors and Censors."[2] This reorganization as it were of the districts was preceded in 1831, and again in 1848, by considerable discussion as to the relations of the districts to the parent society. One of the more active and powerful and at the same time one of the most distant subdivisions of the society was in Berkshire. It was apparently felt by certain members of this district that heavy burdens were imposed upon them, and that for obvious reasons they were unable to participate in the privileges of the society. The different portions of the State

[1] The question having arisen of the right of the districts to send delegates to the American Medical Association, it was decided that they could not if the Councillors voted not to have the society represented, as they did in one year, for in 1852 it was decided that credentials prepared by the district societies must be signed by the president and secretary of the general society, and that the delegates be called "Delegates of the M. M. S."

[2] *Boston Med. and Surg. Journal*, vol. ix. new series, p. 19, District Societies, Their Purpose, Powers and Limitations.

were at that time far less accessible to one another than at present. It was a much more difficult matter for a member to attend the meetings of the society, or to avail himself of the advantages of the library which it then possessed. As the meetings were held in Boston, and the funds and library were also there, it was evident that there was a growing feeling of discontent in a section of medical activity at the western end of the State, forgetting that Boston is nearly the geographical centre of the State, and in accessibility quite so, and this eventually found expression in the presentation of a memorial to the Legislature in 1831. No legislative action having been taken, it was finally brought up in a memorial to the society in 1848. The proposition of Dr. H. H. Childs and others contemplated that the State society should be constituted by delegates annually chosen by the county associations agreeably to the principle adopted in most of the States, thus making the basis of the society local or county associations. The petitioners claimed, in urging the measure, that the objects for which the society was first brought into existence had been completely overturned, a license being no longer required for the practice of medicine; no laws of the State or of the society were now of avail in guarding the entrance of the profession. In order to obtain such united action from the profession as could best protect and advance its interests, a new plan should be devised, which would bring in a good many respectable men who were not members.

The plan which was to smooth out all these difficulties was somewhat vaguely stated as "associated union."[1] The majority report of the committee to whom this whole matter had been referred was presented to the Councillors by Dr. Peirson, of Salem,[2] and showed clearly that the simple and efficient plan of the society had accomplished all that was ever intended by its organization in 1803; that it would be unwise to desert a system which had worked well for half a century; that it was regarded by physicians in other States and countries as a most desirable model of medical organization; and that nowhere in our country, if in any other, could be pointed out a more respectable body of practitioners, or one more highly estimated by the community. Experience since that time has amply justified the views expressed by the committee, and the society now presents an organization less cumbrous in form and in better working order, probably, than any other in the world.

It was at first supposed that the society would become a scientific body, which could discuss and diffuse medical information and improvements, and

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[1] *M. M. S. Comm.*, vol. vii. p. 150, Appendix.

[2] *M. M. S. Comm.*, vol. vii., Appendix, p. 142. The committee consisted of two from each district society, and two from each county or part of a county in which no society had been formed: in all, 32 members. The majority stood 20 to 8. It is interesting to note both in this and a previous report (vol. v., Appendix, p. 26) the stress laid upon the importance of maintaining a high and uniform standard of qualifications demanded of the candidates, which it was claimed was the chief means by which the harmony of the profession and the security of the public against unqualified practitioners were promoted. And again it was expressly stated that "the primary objects of the society are to effect a system of adequate and uniform education, and to elevate the standard," &c.

take rank among the institutions of learning and science.[1] Later, when it embraced the whole profession, the professional and scientific work was in a great degree delegated to the districts, and the general society became more especially a regulator, in conjunction with the State, of the practice of medicine, although at the annual meetings the amount of professional work is yearly increasing, and the society encourages original work on the part of members by the offer of annual prizes. Its most distinctive feature has always been the establishment of an educational standard, and in this it was aided by the government, to protect the public against the introduction of improper persons to the practice of medicine. It should be distinctly understood that it was in no sense intended for the mutual protection of physicians, for individual practitioners can get on very well without the society, and the number of those whose incomes are encroached upon by irregulars is exceedingly small.[2] Its objects were effected first by the diffusion of medical knowledge among

[1] *Comm. M. M. S.*, vol. vii., Appendix, p. 149.

[2] In this spirit are framed the laws in relation to consultations with irregular practitioners, which is regarded by a portion of the public as so illiberal. A report of a committee on the infractions of by-laws (vol. vi., Appendix, p. 10) states: "There are many who affect to think, and there are perhaps a few who actually believe, that these laws are made for the benefit of the profession, when, in truth, as the least reflection will show, their sole purpose is to promote the good of the community,—to guard the public against ignorant, designing, and unprincipled pretenders. . . . . Would it be right, by consulting with such individuals, to declare to the world, as we certainly do, that we believe them to be well educated, when, to say the least, we have no evidence of the fact? Who has a right to complain of our course? Not our fellow-citizens, for they can employ whom they please; and the practitioners who will not conform to our rules as to a proper course of study cannot blame us if we will not receive them as associates and fellow-laborers."

physicians. Prescribed courses of study[1] were laid down for those who proposed to undergo the examination of the Censors. The society was in fact equivalent to a medical school,[2] and at the time Harvard began to issue medical degrees the society protested against this supposed encroachment upon its privileges. The medical literature of the day was made available to members. The first Pharmacopœia published in this country was prepared for their use, and the society had no small share in forming the first Pharmacopœia of the United States. To the community it lent its valuable aid from time to time, as occasion required it. Questions of great importance were investigated by its committees, from whom many valuable reports emanated. A striking illustration of this kind of work is afforded in Volume I. of the "Communications," where we find an elaborate report on vaccination read at the annual meeting, June 1, 1808. The almost complete immunity of the city from small-pox for nearly a third of a century following shows how faithfully the profession of that day performed its task. During epidemics of spotted fever and cholera the activity of the society was conspicuously displayed. Its

[1] "That it shall be the duty of the society effectually to answer the designs of their institution from time to time; to describe and point our such a medical instruction or education as they shall judge requisite for candidates," etc. (Acts of 1803, sec. 1.) Lists of desirable medical works are frequently seen in the publications of the society.

[2] Israel Atherton, October, 1789, recommends five years of study to those who have not received a collegiate education. A thorough knowledge of Greek and Latin was thought necessary by Nathaniel Coffin. In a report by a committee, Cotton Tufts, chairman, June 6, 1786, it appears that preliminary requirements were expected of a pupil previous to his instruction by a physician.

salutary influence was exerted in behalf of the law to encourage the study of anatomy, this State being the first to set the example of such enlightened legislation. Among the latest achievements, are the abolition of the antiquated coroner system and the substitution of the medical examiner, whose important duties are throughout the State performed by members of the society, who have lately formed themselves into an association for the purpose of medico-legal studies. It was under the shadow of the society's wing that the first Board of Health in the United States was organized. And last but not least, the great boon of anæsthesia was given to the world through the agency of its members. The new code of ethics prepared last year by a committee of the Councillors should not be overlooked. It will undoubtedly serve as a model for all future codes, and has been most favorably commented upon throughout this country and in Europe.[1]

I will now call your attention to a few typical examples of national medical associations, and to

[1] Dr. S. E. Chaillé, of New Orleans, in a paper read before the American Medical Association, speaks thus of our society: "It manifests its appreciation of the *mens sana in corpore sano* by expending annually about $1800 on dinner, cigars, etc., and some $2300 on the publication of mental food. . . . . In no less than six particulars the influence of this society on state medicine deserves special attention. Massachusetts is surpassed by no other State in the variety and excellence of its public institutions for the sick and infirm. The Massachusetts General Hospital has probably no equal in this country. The Harvard Medical College has been among the very first of such institutions to establish a three years' graded course, and is in all other respects one of the best medical colleges in the United States. . . . . Massachusetts has the most satisfactory, however imperfect, registration of vital statistics of any State in the Union. . . . . To the Massachusetts Medical Society is also due the greatest triumph yet accomplished in American medical jurisprudence,—a triumph which on this subject places Massachusetts in advance of every English-speaking people."

certain of our state societies whose organizations present peculiarities worthy of study.

For a number of years medical societies assembled in various parts of Europe, Switzerland being the first to hold a meeting of medical men. France and England followed her example. Italy had a gathering of physicians as early as 1839 at Pisa. It was at the annual meeting of the French Medical Congress at Bordeaux, in 1865, that it was proposed to hold an International Congress at Paris during the great exhibition of 1867. Professor Brouillard, the president of the Congress at Bordeaux, was authorized on his return to Paris to organize an executive committee, to whom the preparation of the coming meeting should be intrusted. It was intended that these gatherings should be purely scientific in character, and that there should be no official recognition by the schools or government; that they should last two weeks, and be held biennially. Foreign nations were invited to join, and their representatives were received at Paris as guests, the expenses of the meeting being borne by the French members solely. Since that time a fee has been usually demanded from each member. The preparations for each meeting are perhaps more elaborate than those of any other association, each country vying with the others in the perfection of its arrangements. Circulars are first freely distributed by the committee some eighteen months in advance, and the coöperation of the journals and societies requested. Several subjects in the earlier meetings

of the Congress were selected for discussion, and were printed with an outline of the general character of the discussion it was intended to have. These occupied the day-time at the Paris meeting, while the evenings were given up to miscellaneous papers and discussions.

The first day opened with communications on the "Pathological and Physiological Anatomy of Tubercle." Other papers read at this meeting were, "On the Influences of Climate, Race, and Condition of Life on Menstruation in Different Countries;" "The Accidents which cause Death after Surgical Operations; "Prophylactic Measures to prevent the Propagation of Venereal Diseases." It was found that the difference of language was a great obstacle to the success of the meetings, and that the formal discussions were lengthy and tedious, many of the papers being read for the authors. The attractions of the city, and exhibition detracted largely from those of the Congress. The attendance was large; there was a fair number of celebrities, and all countries were represented.

The second medical olympiad, as it was termed by Professor Brouillard, was held in Florence, in 1869, Professor Salvator being the presiding officer. The general plan of the meeting was similar to that held at Paris. The chief subjects of discussion were, "Marsh Miasm;" "The Therapeutics of Cancer;" "The Treatment of Gun-Shot Wounds;" "Hygiene of Hospitals;" "The Influence of Railways on the Health of Man;" "The

Conditions which favor the production of Epidemics in Large Cities;" "The Rights and Duties of Medical Men in relation to the Government and the Reforms which may reasonably be expected."

The third meeting was held in Vienna, in 1873, at the time of the great exhibition in that city, with the venerable Rokitansky as its president. The subjects discussed included, "Vaccination," "Syphilis and Prostitution," "Cholera and Quarantine," "Freedom of Practice in all Countries for Qualified Men," "Hygiene of Large Towns." A universal Pharmacopœia was proposed, and was further discussed at the next meeting in Brussels, without any definite plan having been arrived at. This Congress does not seem to have been so successful. There were about two hundred members, but the attendance was not satisfactory, the attractions of the exhibition being great, and especially of a very fine exhibit of military surgery. The physicians of Vienna do not appear to have attempted a publication of the proceedings, which came out in abstract three years later, under the auspices of their successors.

Brussels entertained the Congress in 1875, Dr. Hennincke, the president, opening the proceedings in the presence of the king. At this Congress the work was for the first time handed over to "sections"; each department preparing questions beforehand for debate. There was a general meeting at midday, and in the afternoon the various sections held their sessions, at which a large amount of

work appears to have been accomplished. This plan of organization has been retained since.

The next year being the date of our centennial celebration, an extra (but apparently unrecognized)[1] session was held in Philadelphia. I need not remind you how ably the committee having the work in charge carried out their programme. Although there were but few delegates from Continental Europe, Great Britain furnished a large number of representatives, with whose names and writings we are all familiar. With the venerable and distinguished Dr. Gross as president, and such men as Lister, Tufnell, Barnes, and Adams to participate in the debates, the meetings could hardly fail to prove most interesting.

In 1877 the Congress met at Geneva, under the presidency of Dr. C. Vogt, and was largely attended. There were numerous agreeable social features, which the picturesque locality made additionally attractive. The volume of reports is by far the most elaborate, there being also a number of very fine illustrations. There was an exhibition of instruments.

The meeting at Amsterdam, in 1879, was notable for the attendance of many scientific men of eminence. Donders was its president, Virchow was among the members, and one of the general meetings was made memorable by a sort of ovation

[1] The Congress at Brussels feared that the meeting at Philadelphia would be attended by so few of its members, that there would be danger that no subsequent place of meeting in Europe would be assigned at its termination. It was also maintained that the Congress was European solely, and Switzerland was accordingly appointed as the next place of meeting.

to Lister. The social entertainments, as usual in Continental towns, were an attractive feature.

The next meeting of the Congress is to be held this summer in London, and English physicians have certainly thus far left nothing undone to make it the most brilliant of the series. Work began over a year ago, circulars being freely distributed to all journals and societies. In this way coöperation has been obtained from foreign countries on all sides, and the organization of the various sections and the preparation of the work have been greatly facilitated. The session will open August 2d, and continue through August 9th. All legally qualified practitioners will be received on the payment of one guinea; membership will entitle one to a copy of the Transactions. It has been decided not to admit female physicians to the meetings of the Congress, but ladies will be invited to attend the social gatherings. Arrangements have been made to hold a medical exhibition at the South Kensington Museum, on a scale which has never before been attempted: it will be opened a fortnight before the meeting of the Congress.

The work has been divided up among no less than fifteen sections, which will occupy the mornings, and in the afternoon there will be a general meeting, when addresses by Huxley, Volkmann, Billings, and others, and communications of special interest, will be listened to. This and the meeting of the British Medical Association in the Isle of Wight, this summer, will prove a great attraction to American physicians.

The organization of the International Congress is of a very simple character, each meeting being completely independent of its predecessor.

The British Medical Association was founded in 1832, by Sir Charles Hastings, of Worcester. It was designed by the founder to remove the disadvantages under which provincial medical practitioners labored, owing to their isolation and want of coöperation. It is a scientific, a benevolent, and an ethico-medico-political association.[1] Its objects are attained by means of periodical meetings, by the publication of a weekly journal, and occasionally of transactions and other papers, and by the appropriation of certain sums of money for the promotion of the medical and allied sciences. It was at first a purely local association, but gradually extended so as to include London, Scotland, and Ireland. In 1874, the association was incorporated under the Board of Trade, in accordance with the "Companies Act of 1867." The governing body is a board of directors, called the committee of council, which is composed of twenty members, elected by the council, and includes certain officers, who are *ex officio* members. The council consists of the president and other officers and representatives, elected by the various branches of the association, each branch electing one for every twenty, together with an honorary secretary. In addition to its duty of electing the committee of council it prepares an annual report of the state

[1] Carmichael Prize Essay for 1879, Walter Rivington. London: Longmans & Co.

and proceedings of the association, proposes the places of meeting for each year, and nominates a president. Practically, however, it has little power, being generally satisfied with registering the decrees and nominations of the committee of council, which has complete control, the management of the affairs of the association being thus kept in the hands of a few men. The number of branches of the association is between thirty and forty. They embrace 7500 members, being one third of the registered members of the profession in the United Kingdom. At the annual meetings, addresses are delivered by the president and the presiding officers of sections, when discussions on special subjects take place. There are sections of medicine, of surgery, of obstetric medicine, of public health, and of physiology. Committees are appointed at the annual meeting to carry out the wishes of the association and advance professional interests. These are the medical reform committee, the parliamentary bills committee, and the scientific grants committee. The last was appointed in 1874, to distribute the £300 annually voted by the association to forward original research. The second committee was appointed in 1863, and has rendered valuable service by considering all bills introduced into Parliament in any wise affecting the interests of the profession or touching the public health: amendments suggested by the committee are often adopted by the government.[1] It also watches over

[1] Through the influence of the committee, numerous acts have passed Parliament dating back to 1848, which have established an efficient system of public hygiene, with 15,000 sanitary districts and the requisite number of sanitary officers.

the interests of the medical departments of the army and navy and the marine service.

The medical reform committee was appointed in 1852, and has for its special duty the advocacy of improvements in the law regulating the practice of medicine; and in order to understand the attitude of the association towards the question it will be necessary briefly to allude to the license law, or, as it is termed, "registration," in the United Kingdom. This system is supervised by a body known as the General Medical Council, composed of representatives from the different examining bodies throughout Great Britain and Ireland, and several members appointed by the crown.[1] These are the bodies whose diplomas are recognized by the council for registration, and no man can be a legal practitioner unless he is entitled to be placed on the medical register. It must be remembered that these licensing bodies, seventeen, or as is more lately stated nineteen, in number, such as the Royal College of Physicians of London, of Edinburgh, of Ireland, and the universities, are not necessarily charged with the teaching of medicine, which function is performed by the medical *schools*, of which there are in London alone a large number, attached to the several hospitals. Registration is not made compulsory, nor can any penalties be inflicted upon an unregistered person who, having obtained a diploma, practises in accordance with such qualifications; but without being upon the register no

[1] In the *Medical Directory* for 1874, seventeen members represent these bodies, and five are appointed by the government.

one can recover fees in a court of law, nor hold a government position, nor sign medical certificates: he is wholly shut out from official medicine. Those who practise without a diploma can be prosecuted in case they assume a title recognized on the register, and are then liable to a fine of twenty pounds for each offence. The eclectic and homœopathic practitioners are not sufficiently numerous or influential to secure a representative in the council: no such effort has, at all events, been made.

Although all the diploma-granting institutions are thus united under one controlling body which secures a minimum of requirements, the standard of excellence is a very varying one, and attempts have been made to form an examining board which would represent all these bodies, and also to institute a state diploma which should be compulsory for all students before their names could be placed upon the register, but as yet without success. The constitution of the council is apparently not satisfactory to the profession, as both the association and the prominent journals have favored a reorganization upon a basis which would represent the profession at large, rather than the diploma-granting bodies which it is intended to control.

It will thus be seen that the organization of the association is such that it is able to exert a great deal of influence, not only in matters pertaining to the welfare of the profession itself, but also in legislation bearing upon state medicine.

There are several prizes: the Hastings medal; two triennial prizes, being the interest on certain

sums presented by members of the association; and a medal for "distinguished merit," awarded to any member of the profession for heroic conduct or special services to the association.

The management of the British Medical Benevolent Fund, which has an annual income of over $3000, has been in the hands of the association since 1835.

The special feature of the association, to which is due in a great degree its brilliant success, is the *British Medical Journal.* This weekly periodical had its origin in the volumes of Transactions, nineteen of which have been published in twenty-one years. It was first started in 1840 as *The Provincial Medical and Surgical Journal.* In 1844 it became the official journal of the association, and was at first controlled by a committee. This was not a very successful arrangement, and the journal was transferred to Worcester, where it was issued once a fortnight. In 1853 it was again taken to London, and published as the *Association Medical Journal*, under the editorship of Dr. John Rose Cormack. In 1856 the present title was adopted, and ten years later Mr. Ernest Hart, the present editor, assumed charge. Under his able direction the circulation, and with it the membership of the association, increased from 2500 to over 7500, and additions to this number are constantly being made. The magical effect of the influence of the journal upon the association is graphically described by Dr. Sayre in his address, delivered last June, before the American Medical Association, wherein he

advocated a similar experiment in this country. The proceedings of the association appear promptly; every address or article, with the discussions to which they have given rise, appear in the pages of the journal; and as work is going on the year round, there is a constant supply of material, and the interest is kept alive. As Dr. Sayre truly remarks, "Certainly in this way the British Medical Association has become the most powerful medical association in the world."[1]

The fundamental idea which brought about the formation of the American Medical Association was the improvement of our system of education.[2] During the fifteen years intervening between 1830 and 1845 the number of medical colleges in the United States more than doubled. The competition was great, and short courses of instruction and easy terms of graduation were consequently the rule. Sixteen weeks were very generally adopted as the length of the college term, and in some of the schools it was reduced to thirteen. At the meeting of the Medical Society of the State of New York, in 1839, when the subject of medical education was brought forward, it was proposed to hold a national medical convention in Philadelphia the following year, consisting of delegates from the societies and schools of the different States. No response was made to the action of the society. In 1844 the New York society made

[1] Its revenue amounts to $50,000.

[2] *History of the American Medical Association*, by N. S. Davis, M.D., Philadelphia, 1855.

a second movement in this direction, Dr. N. S. Davis, a delegate from Broome County, New York, offering a resolution that a national convention be called to meet in New York in 1846, the organization of which was intrusted to a committee, of which Mr. Davis was chairman. On this occasion there was a general response from all quarters except Philadelphia and Boston. The proposed convention assembled in May, 1846, and Dr. Jonathan Knight, of New Haven, was chosen president. Committees were appointed, and resolutions in favor of the formation of a national association and elevation of the standard of medical education were adopted. The convention reassembled the following year, and, after listening to the reports of their committees, resolved itself into the American Medical Association, and elected Dr. Nathaniel Chapman, of Philadelphia, its first president. The two systems discussed at this meeting as the basis of membership were, first, "the delegate," which has since become so familiar to American physicians, and which was adopted; and, secondly, that proposed by Dr. Isaac Hays, which contemplated an organization, the members of which should be elected by itself, either directly or through a board of councillors, thereby making it independent of state and local societies and institutions. It was thought that the latter plan would give the association greater stability, and make membership more select and permanent, while it was urged that the former would give the association more influence among the profession at

large, and would favor the development of state, county, and city societies throughout the Union. The delegate system was adopted; but finally, in 1874, delegates from hospitals and colleges were excluded, the state and county societies, which are recognized by their own state society, alone being represented. Even this modification does not seem to have proved very satisfactory, for in 1877 it was proposed by the president, Dr. Bowditch, that every member of a state society should be *ex officio* a "permanent member," the number of delegates being greatly reduced. But this plan was objected to, a committee subsequently reporting that it would be desirable if uniformity of organization and the payment of fees could be secured. It is interesting in these early meetings to note the character of the resolutions bearing upon medical education, having in view increase in the length of term,[1] the necessity of a full three years' course of study, a higher and more uniform standard of preliminary education, and the separation of the teaching from the licensing power.

A prominent feature of these meetings was reports from standing committees on medical science, on practical medicine, on surgery, on obstetrics, on medical education, on medical literature, and on publication. At the second meeting in Baltimore the report of Dr. Holmes on medical literature justly criticized the proneness of American writers

[1] The University of Pennsylvania extended its lecture term to six months, and the College of Physicians and Surgeons lengthened its course to five months. Other schools added a few weeks to the term, but this was all that was accomplished.

of that period to content themselves with the position of editors of foreign works, and the character of our periodical literature, and urged the substitution of original for parasitical authorship. The beneficial effect of such criticisms from the association is indicated by Dr. Davis in his presidential address in 1865. When the association was formed publishers would not take books from American authors. The influence of the association had, he thought, already at that time wrought an entire change. The second annual meeting was held in Boston, and Dr. John C. Warren was elected the third president. It is particularly worthy of note at the present time that in connection with the report of the committee on medical education a paper was presented from the faculty of Harvard University *opposing* the proposition to extend the annual college terms to six months. It was at this meeting that social features were introduced, an entertainment being offered to the association by the physicians of Boston.

Already at the third meeting an interest in public hygiene began to manifest itself, and papers on subjects pertaining thereto were offered from Boston, New York, and New Orleans. An appropriation having been made for two annual prizes, the first was awarded at the fourth meeting, in Charleston, in 1851, "to Dr. John C. Dalton, Jr., for the essay 'On the Corpus Luteum of Menstruation and Pregnancy.'"

The annual reports of committees, containing abstracts which were lengthy and uninteresting,

were soon abolished, the number of committees being enlarged to thirty, and special subjects being assigned to each.[1]

At the next meeting we find the association memorializing Congress in regard to abuses in the merchant marine, and as early as 1852 the propriety of substituting a periodical journal for the Transactions was suggested by Dr. J. B. Flint, of Kentucky. This proposition has been advocated since by Drs. Gross, Sayre, and Parvin, at different meetings, as it was thought that no other measure would promote so efficiently the prosperity of the association, and in this view they are undoubtedly correct.

The association early felt the importance of medical organizations in the different States; but few state societies and smaller local societies had been formed, and the masses of the profession had not only no coherence, but were actually separated.[2] A committee was appointed to draw up a plan of organization of state and county societies, for the purpose of facilitating and encouraging such formation. It was suggested in the report that the counties should be made "auxiliary" to the State, and the state societies "auxiliary"[3] to the national association. As the importance of maintaining a high standard of education was not forgotten, each State was strongly urged to include in its plan

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[1] Somewhat after the plan of the International Congress above mentioned. The plan did not succeed; not one in six furnished a report of any kind. Dr. Davis, Presidential Address, 1865.

[2] Dr. Bowditch, Presidential Address, 1877.

[3] "Delegated bodies," or independent bodies represented by delegates.

the formation of a board of Censors. It was contemplated that the counties should send in reports from its individual members to the State, and the States in their turn should make return to the parent society, thereby establishing a concert of action throughout the country.[1]

Dr. Chaillé says in regard to this point: "In fine, the most important duty of this association is to devise ways and means to organize the medical profession in county societies, to gather these into state societies, and to aggregate the whole into this association, and to induce each physician to contribute $10 to $15 to support the three societies. The association would thus obtain a revenue of $200,000." Such a plan, attractive as it may appear, would be impracticable at the present time. It would be difficult to collect fees or to persuade members to take an active interest, judging from the experiences of state societies. For instance, in 1878 Georgia dropped 300 of 547 members for non-payment of fee.

The code of the committee referred to above did not prove satisfactory, for we find Drs. Gross and Davis stating, in 1878, that many of the state societies were little more than annual mass-meetings, and that there was no uniformity in the plans of organization.

It has been proposed since to improve upon the old code, and to publish in the Transactions annually a statistical report of certain specified details

[1] When the association was formed there were about 125 societies in the United States. Now there are over 1200.

for every state society; also, peculiarities of its regulations, or measures it is using to promote its efficiency. The state societies have also been requested to publish a register of the members of the profession in good standing. No society, however, has complied, although many local registers are published.

The plan of committees to report on special subjects proving a failure, all special work was, in 1860, referred to the "sections," which by holding simultaneous meetings accomplish a far greater amount of work.

The next great improvement in organization was effected in 1873, when the formation of a judicial council satisfactorily disposed of what was becoming a great source of annoyance and impediment to work,—the discussion of local questions of ethics at the general meetings. The council consists of twenty-one members, seven new members being added each year, and seven retiring.

As in the earlier meetings the presidential addresses teemed with suggestions on the subject of medical education, so in later years we find the growing interest manifested in public hygiene. Since 1870 this has been strongly marked. In 1871 the association urged that a professorship of hygiene should be established in every medical college, that every state government should be memorialized to establish a board of health, and that members should use their influence to induce Congress to form a national board. In 1873 a section of state medicine and public hygiene was

formed. In the Transactions for 1879, the exceedingly valuable and interesting paper by Dr. Chaillé, of New Orleans, on "State Medicine and State Medical Societies," and papers on "Protective Sanitation," by Dr. Storer, and "Registration of Disease," by Dr. Balch, testify to the increased interest in these matters.

The association does not appear to have taken any stand in regard to the perplexing question of medical license laws in the several States. It seems to have contented itself, and perhaps judiciously so, with recommending the exaction of preliminary education by boards of Censors, and later in advising the societies to examine all practitioners, whether graduates or not; in other words, with urging a high standard of excellence from each state society.

It has used its influence to secure improved rank for medical officers in the army and navy, and its repeated efforts through committees have undoubtedly helped to give us the first volume of the Index Catalogue.

Resolutions have also been passed, having in view the prevention of criminal abortion, and reform in the methods of securing expert testimony.

This brief sketch is sufficient to show the character of the work attempted by the society, and to enable us to estimate roughly what it has accomplished. The medical mind throughout the country was roused into activity by its formation.[1] Al-

[1] Dr. George B. Wood, Presidential Address, 1856.

though the early work in aid of medical education had little apparent effect at the time, undoubtedly it may fairly claim a share of the influence which has brought about the great changes of the last decade. The questions of public health, which have lately been so prominent, have reminded us of the usefulness of such a body, when well managed, in time of need. The result is certainly more satisfactory than one might have expected, considering its diminished popularity in the Eastern and Middle States[1] during the last ten or fifteen years of its existence. The class of medical men who take an active part in the work of the association are no longer of the same stamp as those who attended the meetings in the early years of its life. But comparatively few of the prominent men of the country are now to be seen at the annual gatherings. The causes of this decline it is not difficult to find. The delegate system of membership, which was not adopted without opposition, seems largely to blame for this unfortunate result, offering as it does but little inducement for membership, and opening the door to any one who may wish to make this an excuse for a pleasure trip, or who may desire to use the association as a means of personal aggrandizement. The ever-changing character of the material of this body gives it a lack of stability and permanency which must necessarily greatly impair its efficiency. The conditions which exist in this country are to

[1] Dr. Bowditch, Presidential Address, 1877.

be met only by an organization specially devised for the purpose, and it would clearly be impossible to select any other national association for a model. The lack of uniformity in other state societies would prevent, for instance, the adoption of so simple a plan as that of the British Medical Association. In 1872 this question was freely discussed in the medical journals, and amongst other plans it was proposed to establish a national council,[1] a sort of medical senate, the members of which were to be elected for a term of years by state councils, whose members in turn should be selected from congressional districts. To such a body would be intrusted the scientific and professional business of the association. Eventually, the various state and county societies might be included as branches and sub-branches of the parent society. An important element in the success of any such large body of medical men is the inducements which it offers to each individual to become a member. He must see a substantial return for the money annually paid in assessments. The sum is usually larger than the average practitioner can afford to spend for objects, the usefulness of which may appear to him somewhat remote. The annual volume of Transactions does not supply this need. The work of the annual meeting does not appear until many of the questions it has discussed have, in these rapidly moving times, lost the vitality which made them topics of special interest at the

[1] *Boston Medical and Surgical Journal*, July 25, 1872.

moment. During the greater part of the year the association is a blank; beyond the feeble efforts of a few committees, its work seems to have come to a stand-still. Nothing is known of the coming meeting by the profession at large. Contrast this fact with the methods adopted by the International Congress: how much more we know about a meeting which is to take place three thousand miles away than we did beforehand of one which has taken place at our very doors! The publication of a weekly periodical would not only fill this void for each individual, but would be a powerful incentive to the association for continuous work throughout the year. This would of course necessitate a radical change in the organization of the society, which is perhaps the reason why its leaders have shrunk from taking the step.

The future of the association depends largely upon the success with which it identifies itself with the interests of the state societies. It should become a bond of union between them, the usefulness of which should be made so apparent that all would be glad to avail themselves of it. To effect this object, the present organization must be discarded, and an active and vigorous body must take its place, making its influence perennial, and appropriating for its highest offices the ablest men in the country. With such machinery the profession of the United States would, I think, be startled to find the power which it would be able to exert.

The Medical Association of the State of Alabama was organized in 1848, and reorganized in 1873.

The objects of the association are stated to be the organization of the medical profession of the State in the most efficient manner; to encourage a high standard of medical education, and regulate the qualifications of practitioners of medicine; to watch over and protect all the interests of the medical profession of the State; and to supervise the sanitary laws and interests.[1]

The peculiar features of this association are the attitudes which it has assumed towards the regulation of the practice of medicine and its public health system. The various boards of censors assume the double duties of examining boards and boards of health for the State at large, and for its various counties respectively.

The draft of an act to regulate the practice of

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[1] The composition of the society is somewhat complicated, the members of the association being divided into four classes, namely, members, delegates, councillors, and correspondents. The members of county societies are "members" who have the privilege of attending the sessions of the general society, but are not allowed to vote. Two "delegates" are chosen annually by each county to represent them in the association. They are entitled to vote on all questions which come before the association, but cannot hold office. The "councillors" are a body of one hundred members, formed from some preëxisting body, apparently, they hold their positions permanently, and vacancies are filled by a joint vote of councillors and delegates. "Correspondents" are honorary members. The board of censors of the association consists of ten men, elected for such terms that there shall be two vacancies annually to fill. They act as a general committee of reference in all questions relating to the organization and general welfare of the association, and have other peculiar functions, presently to be mentioned. The county societies have each a body of censors consisting of three members. The annual meeting is on the first Tuesday in April, and lasts four days. Thirty-two county societies have been organized, containing 382 members. Members pay a fee of one dollar. Delegates pay a fee of five dollars. Councillors pay a fee of ten dollars. Each member pays to the county society five dollars annually. "None of the funds of the association shall ever be appropriated to furnishing festivals or entertainments; nor for any purpose whatever except such as may look directly to the advancement of medicine, including under this head the publication of an annual volume of Transactions."—*Constitution M. A. A.*, Sec. XIII.

medicine was submitted to the association in 1874, and became a law in 1877, after an active opposition in the Legislature. The leading features of this law are as follows: The state and county boards of censors are constituted boards of medical examiners, from whom all persons intending to practise medicine in the State must obtain a certificate of qualification after passing an examination. All persons legally engaged in practice at the time of the passage of the law are continued in the enjoyment of their rights under certain regulations. It has been found expedient not to molest any practitioner actually in practice at that time, even though he be thus engaged without the authority of the law, except in notorious cases. The examinations for those who propose to practise the "regular" system of medicine include anatomy, physiology, elements of chemistry, organic and inorganic, materia medica, therapeutics, pathology, theoretical and practical medicine, surgery, obstetrics, hygiene, and medical ethics.

Those who propose to practise some irregular system are examined only in chemistry, anatomy, physiology, and the mechanism of labor. The examinations are partly oral and partly written.

There are preliminary examinations laid down for those who intend to begin the study of medicine, which include English grammar and literature, outlines of history, elements of arithmetic, algebra, geometry, physics, or natural philosophy.[1]

[1] No practitioner can receive a student who has not passed the preliminary examination.

The certificate of the board is duly registered in the probate court of the county. After having passed the examination, the successful candidate, if a "regular," is generally elected into the county society. Up to the present time the county boards have been engaged for the most part in the preliminary work of issuing *pro forma* certificates to those already engaged in the practice of medicine. They have also made a few examinations of applicants who propose to practise the regular system of medicine. Practitioners of the peripatetic class have as a rule declined to come before the boards, when summoned to do so, and have preferred rather to leave the State. Numerous cases of this kind have occurred. The penalty for violation of the law is a fine not exceeding one hundred dollars, and in default of payment imprisonment for not over one year.

In one of the reports of the censors regret is expressed that provision requiring the examination of irregular practitioners has been introduced, as it thus elevates irregular medicine into a position of quasi-respectability, and "because it will, perhaps, give a somewhat longer lease of life to systems of practice that are already falling into decay, and that should have been allowed to die as quietly as possible, without being temporarily galvanized into an appearance of vitality by legislative action."

The association has in view the annual publication of a complete register of medical practitioners of the State.[1]

[1] The county societies are held strictly to account, and may be censured, or their charter may be forfeited to the general society.

The State Association is also made the State Board of Health, and the functions of county boards of health are invested in the several county medical societies, "thus virtually engaging all the doctors of the State in the service of the people, and in the administration of the health laws of the State." The bill proposing this measure was passed in 1875. In 1879 an act was passed appropriating three thousand dollars for the use of the state board. The county boards enjoy only advisory powers, and are conducted without expense to the State. Under certain emergencies they may be invested with extra powers and duties by the legal authorities.

It is proposed to pass an act this year to provide for the supervision of the public health, and for the collection of vital statistics. This act specifies more accurately the duties of the various boards, including the supervision of all public institutions, and all matters pertaining to quarantine and quarantine physicians.[1] Each county board has a health officer at a salary of not less than one hundred dollars a year, who is the executive officer of the board. He attends to all the specified duties, is prepared to vaccinate and perform any additional duties which may be assigned him. He must keep a register of births and deaths and infectious diseases, and every physician, midwife, or

[1] It is also specially provided "that no person laboring under any pestilential or infectious disease shall come or be brought into any such county, or removed from place to place, except by permission of the county board of health," and "that no dead human body shall be brought into any such county or removed from place to place," etc.

citizen is expected to send to him full reports. He is obliged to make weekly, monthly, and annual reports to his board of all business done in connection with his office, and the country boards make to the state board an annual report, "containing all the vital and sanitary statistics of the county," and any other information that may be deemed advisable. The health officer may have assistant health officers appointed to aid him in this work. Fines may be inflicted to compel information upon the desired points. The state board can declare quarantine measure when thought necessary, and twenty thousand dollars are annually appropriated for quarantine purposes. This board may also have its health officer, if deemed important. His term of service lasts five years, and he is paid out of the annual appropriation first mentioned. His business is to conduct the correspondence of the state board, to assist in organizing and conducting the county boards, and to take charge of the annual reports.[1]

Ordinances exist also for the regulation of the practice of pharmacy and the practice of dentistry in the State. Attention should be called to an im-

[1] The board of health during the past year has memorialized Congress to the effect that the bills now before it to increase the efficiency of the national board of health are open to the objection that they give to the national board the power to establish and administer quarantines within the limits of the State against all commerce and travel of which one of the terminal points lies outside the State, and this without consent of or consultation with the local authorities. In its opinion the state board should be required to submit its regulations to the national board for approval, and if satisfactory proper assistance should be extended to them. The national board should have general direction and control of quarantine against foreign countries, but through the agency of the state boards. The memorial points out that the national board has a wide and important sphere of usefulness, within which local boards have no jurisdiction.

portant recommendation in the last report of the censors, "that no laws affecting the interests of the medical profession in any way should be allowed to go before the General Assembly without first having received the indorsement of the association."

In the Transactions for 1875 we notice the following significant remark: "We will appreciate most adequately the real character of the association if we regard it as a medical legislature, having for its highest function the governmental direction of the medical profession of the State, while its other functions, important as they are in themselves, are, in comparison with this, of quite subordinate rank."

Undoubtedly the work to be performed by this very energetic body will produce satisfactory results, and the plan may prove the one best adapted to the present needs of the State, being perhaps the most effective that could be devised for inculcating a due appreciation of the laws of public hygiene and raising the standard of the profession in Alabama. The experiment of such a species of medical legislature should be watched with interest by the profession, as whatever may be its fate its experiences will be most instructive to similar bodies throughout the country.

The Medical Society of the State of North Carolina has an organization similar to that of Alabama.[1] By an act passed in 1877 the society was

[1] There are permanent members, delegates, associates, and honorary members. The first appear to be members of the general society, some-

constituted the State Board of Health, the county societies becoming the boards of health for the various counties, under the direction of the general board; these boards receiving from the competent legal authorities any necessary powers for carrying on their work as may be agreed upon. No other boards are allowed to exist, the object being to secure a uniform system of sanitary supervision throughout the State. The sum appropriated for this work by the Legislature was at first but one hundred dollars, but this has since been increased to two hundred dollars; and it is expected that the state government, having appreciated the great advantages of such an organization to the welfare of the State, will establish it upon a basis more on an equality with other departments, as that of agriculture, as a "health department," with perhaps a "commissioner of health" as a state officer, and that it will become auxiliary, if properly managed, to the board of education.[1] It is stated that the object of this plan is to preserve the board from the contamination and corruption of political parties. In a supplemental act passed in 1879, it was provided that the board should consist of six members elected by the society, and three members, one of whom should be a civil engineer,

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what akin to councillors of the Alabama society. "Delegates" represent the county societies at the general meetings. "Associates" are members of the county societies, and have a right to attend the annual meetings, but are not allowed to vote. The county societies are formed independently of the state society, but may subsequently become "auxiliary" to it.

[1] *Transactions of the Medical Society of the State of North Carolina*, 1877. Report of the committee appointed to memorialize the Legislature.

appointed by the governor.[1] The board is disposed to coöperate heartily with the national board of health. The latest accounts show that the board is actively at work, and endeavoring to organize a system of registration for vital statistics, and to inculcate elementary sanitary principles among the people. The secretary complains of the ignorance of government officials and the indifference of physicians.

An act of 1859 authorizes the organization of a board of seven "regularly graduated physicians" under the title of the Board of Medical Examiners of the State of North Carolina, the board to be appointed by the society, unless the Legislature choose to exercise this right, of which it has never availed itself. The term of office is six years. The board meets yearly with the state society, and continues in session until all applicants have been examined, receiving pay for services. Temporary licenses may be granted at other times of the year by any two members of the board. This law, although not making it unlawful for non-licentiates

[1] Those appointed by the society serve two for six years, two for four years, and two for two years; those appointed by the governor serve two for two years. The officers are elected by the board, the president serving two years and the secretary six years. The latter has a salary, the members receiving two dollars a day when on duty. In each county there are provided auxiliary boards, which are composed of members of the county societies, the mayor, the chairman of the county commission, and the city or county surveyor. From this number one physician is elected to serve two years, with the title of superintendent of health, being a salaried officer. His duties are to gather vital statistics, to make medico-legal post-mortem examinations for coroners' inquests, and to attend prisoners in jails, poor-houses, and work-houses. Reports are made and work done as ordered by the state board. "Inland quarantine" for small-pox, scarlet fever, yellow fever, and cholera is under the control of the county superintendent of health, and any violation of the rules laid down by him subjects the offender to a fine of $2500 and imprisonment for not longer than twenty days.

to practise, deprives them of the privilege of collecting fees by legal process. Those practising at the time of the passage of the act were not affected by it. The law has forced many unwilling physicians to undergo an examination for the license, and many have failed to pass the board.[1]

The Texas State Medical Association was organized in 1869. As is usual in most States, the county societies are represented at the meetings of the state society by delegates, two of whom are chosen for every ten members.[2] The medical colleges in the State are represented in the society, each school having two votes. There is a council of twenty-one members, to which all questions of an ethical or judicial character are referred. The association has not succeeded in establishing a state board of health; there is a law authorizing local boards, but it has proved of little value. The chief work has been the establishment of a law regulating the practice of medicine. This was secured in 1873, but has since been modified. It has been framed in accordance with a provision of the constitution of the State that "no preference shall be given by law to any school of medicine." The examining boards, consisting of three practising physicians, are appointed by judges of the district

[1] Dr. L. Julien Picöt, the secretary, writes: "Citizens of the State are beginning to demand of their local practitioners that they obtain a license. When a new man settles in a community it is asked of him at once if he has stood and passed his examinations. A diploma counts for nothing now in North Carolina if a man cannot pass the board. Fortunately, we have no 'pathies' as yet in our State." To which might be added: But with returning prosperity and wealth quacks will probably abound.

[2] Members pay a fee for the support of the association. This was reduced in 1878 to fifty cents.

courts. Every person intending to practise medicine must undergo the examination prescribed by the board. The penalties for non-compliance with this law vary from fifty to five hundred dollars. The licensing power is thus placed entirely under the control of the State. The judges of district courts are supposed to be officers of sufficiently high standing to be intrusted with the formation of efficient boards, although it has been thought, by those familiar with the medical acts of other States, "that this system offers the best solution of the difficult problems arising from the various divisions of the medical profession." It is stated by Dr. Chaillé that in some districts difficulty has been experienced in organizing the boards, owing to the appointment of homœopaths.

The society has interested itself actively in calling the attention of the government to all matters pertaining to state medicine. Unsuccessful efforts have been made to obtain an appropriation for the Galveston Medical College, to enforce compulsory vaccination, to appropriate five thousand dollars for the cultivation of the Eucalyptus globulus, etc. In Louisiana an attempt has been made to provide for the maintenance of the University of Louisiana by the State; but in Michigan, where the state society succeeded in establishing a general hospital and a medical department in the University of Michigan, under state patronage, the government appropriated six thousand dollars to support two professorships for teaching homœopathy. Serious and constant trouble has resulted,

and advocacy of the doctrine that "a State ought not to establish medical schools, nor support nor govern them."[1]

The Illinois State Medical Society possesses many points of peculiar interest. It is one of the oldest of the Western State societies, and was organized in 1850; its secretary, Dr. N. S. Davis, has been more closely identified with society work than any other man in this country, and its relation to the State Board of Health and the medical practice laws present an interesting contrast to those of the societies which have just been described. Of special interest to us is the plan upon which membership is based. Like many of the state societies which followed the pattern of the American Medical Association, the delegate system largely predominated. In addition to delegates, however, "permanent members" were also elected, apparently without any special plan. The consequence was that many men became members who were not in good standing, and many thus elected became alienated from the local societies; others took little interest in the society, and neglected to pay their fees. The feeling became prevalent "that most physicians care nothing for a medical society until sickness, adversity, or a suit for malpractice overtakes them."[2] The system was evidently an unsatisfactory one and liable to great abuse. It was found necessary to revise

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[1] *State Medicine and State Medical Societies.* By Stanford E. Chaillé. *Transactions of Amer. Med. Assoc.*, vol. xxx.

[2] Chaillé, op. cit.

the constitution, particularly with reference to the election of members. This was done in 1878. At this time there were but 352 members, and at the annual meeting in 1878 the total attendance was 100 members in a State where there are 5000 practitioners. In the same year the attendance at the annual meeting of the American Medical Association was 526, and in Maryland, at the meeting of the state society, 150 members were present, being the largest number at any state meeting except that of Massachusetts.

In Wisconsin the society was almost destroyed by being "a delegated body," through the neglect in organizing local societies, and of those organized to send delegates. The Wisconsin society now consists of permanent members entirely; for although delegates are admitted, these prefer to become permanent members. Such facts as these justify the action of those who refused to permit similar changes in the organization of our society.[1]

Under the present organization in Illinois, effected in 1878, there are still delegates, who represent local societies, medical colleges, hospitals, lunatic asylums, and other permanently organized institutions in the State.[2] After serving one year in this capacity, they become permanent members. There is a judicial council of nine members, whose term of office is three years. Its duty is to decide all questions of an ethical and judicial character.

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[1] See page 480.

[2] One delegate is elected for every five members of the local societies. Each faculty is entitled to two delegates, and each hospital to one delegate. The annual assessment is five dollars.

The manner of dealing with public hygiene and medical license is in striking contrast to that of those States previously mentioned, the work being done independently of the society, although the latter has exerted itself to bring about legislation upon these matters.

The Illinois Medical Society appointed a committee to memorialize the Legislature to establish a board of health in 1876. The committee met with great opposition. They were assisted by a committee of the American Medical Association through Dr. Johnson, their chairman, and also by the profession of Chicago. The board has been partially successful in collecting vital statistics. Dr. Rauch, the secretary, states in the report for 1880 that the board has no power to enforce this portion of the law, which devolves upon the county clerks, who frequently claim exemption from the discharge of that duty, proper compensation and assistance not being afforded by the county supervisors. In this report he urges that a committee be appointed on the law regulating the practice of medicine, and another on vital statistics, both of whom to coöperate with the state board in securing sufficient enforcement of the laws. At the last meeting of the society in 1880, it was proposed to memorialize the Legislature to secure the enactment of a law to create a school board of health for each county, consisting of the superintendent of schools, the surveyor, and one physician, the duties of the board being to inspect all sites and plans for schools and their sanitary condition.

The time of the Board of Health has been chiefly taken up in carrying on a work which in no other State has been assigned to such a body, namely, the execution of the law to regulate the practice of medicine.[1] The act was passed in 1877. In organizing the board the governor appointed three "regular" physicians, one homœopath, one eclectic, and two members at large. All physicians who had not been in practice ten years were required to show their diplomas to the board, that body reserving to itself the right to decide whether the school granting the diploma came up to a proper standard. If the candidate had no diploma he was required to pass an examination. These examinations have been largely "written," and a perusal of the papers shows them to be of a high standard. The fines for violation of the act vary from fifty to five hundred dollars. Quite a variety of classes of individuals were found undertaking to practise. Among these it is important to note, in view of certain similar tendencies in this State, that there were a number of colleges whose curriculum was too short, and the work of teaching too carelessly done, and others who did no teaching at all, although chartered schools, their function being the sale of diplomas. There were many holding diplomas that did not belong to them. Forty-one practitioners were found under assumed names. The board went actively to work: held meetings in different parts of the State, and in the first year

[1] Dr. H. O. Johnson. *Transactions of the American Medical Association*, vol. xxx.

issued over five thousand certificates. It was thought that the difficulties in the way of determining the status of the thousands of practitioners scattered all over the State would be insurmountable, but the examining body being also the State Board of Health, the provisions of the law requiring the registration of practitioners as a part of the machinery necessary for securing the vital statistics of the State became an efficient means of overcoming this difficulty. Dr. Johnson is of the opinion that for this reason mainly the regulation of the practice of medicine can best be attended to by state boards of health. He believes that the law should compel every practitioner to pass an examination, as it has been found practically very difficult to discriminate between diplomas from the various colleges.[1]

There is published an annual "Illinois State Medical Register."

At the last meeting, Dr. N. S. Davis, the permanent secretary, who for thirty years had served the society in different capacities, sent in his resignation, which was received and accepted with much regret.

Glancing at other States, it may be noted that

[1] The number of unqualified practitioners has been diminished by 1750 since the law went into operation. It is estimated that about 550 of those now practising and qualified were compelled through the law. The board has found that the clause which exempts physicians who had practised in the State for ten years prior to July 1, 1877, "has rendered its duties more arduous and delicate than they would otherwise have been." Nearly one half of the spurious diplomas came from Philadelphia, and the greater part of the remainder from Cincinnati and St. Louis. The "schools" recognized by the board were the regular, eclectic, homœopathic, and physio-medical.—*Second Annual Report of the State Board of Health of Illinois.* Springfield, 1881.

in Arkansas futile efforts have been made to secure an insane asylum, a board of health, the registration of vital statistics, and a law to regulate the practice of medicine. An excellent plan in Indiana is the appointment of a committee of three on state legislation in each county. The state society has issued to members of the Legislature copies of articles published in its Transactions, on state medicine. Louisiana has been active in urging upon the Legislature the needs of state medicine. It has been said that no State in the Union was better protected against impositions of all kinds. A law to regulate the practice of medicine was enacted in 1808, and amended in 1816, 1817, and 1840. The various provisions were repealed in 1852, without encountering the opposition of any; "for such was the execution of these laws that the State was infested with quacks and patent medicines, and whilst the laws imposed taxes and other burdens on the good, their penalties against the bad could not be enforced."[1] In Mississippi laws to regulate the practice of medicine are deemed premature until better appreciated by the people. The new New York license law requires every practitioner to register, showing a suitable diploma. The penalty is a fine varying from fifty to two hundred dollars. This has the advantage of avoiding a mixed board, and does not oblige physicians to indorse any "sect."

Having thus passed in review a number of asso-

[1] *Boston Medical and Surgical Journal*, November 18, 1880, page 489.

ciations of medical men, which, although in some cases formed for widely different purposes from our own, present peculiarities of interest to our Fellows, let us pause to consider whether we can gather from the experience of others hints which will be of use to us in carrying on our future work.

With the organization of our society we have certainly reason to be content. One of its greatest merits is its simplicity; there is no complicated system of delegates, "permanent" or "associate" members. By it the whole regular profession of the State is united into one compact body, which, through its council meeting at stated intervals, is able to do a large amount of work with a minimum of friction. The tables of Toner and Chaillé[1] show in no State such figures as are credited to Massachusetts, which stands alone in wealth and numbers. Nowhere have I been able to find machinery which could do the work for which our society is designed in so satisfactory a manner. Under these circumstances we ought to be able to accomplish a great deal of good for the community in which we live. Let us glance, therefore, at some of the questions of the day which interest us as medical men.

Most prominent among these is the great question of public health or preventive medicine, the history of which dates back nearly one half a century to what may be called the period of its birth in modern times. It was after the cholera epidemic

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[1] *Transactions of the American Medical Association*, vols. xxiv. and xxx.

of 1830 that attention was first drawn to this question in Europe, and it is since that time that it has risen to the rank of one of the departments of science. The great work which has been accomplished in England also during this period has been of almost incalculable benefit to the civilized world. It is only, however, during the last decade that this vital question has actively engaged the attention of medical men in the United States. The first State Board of Health in this country was formed in Massachusetts in 1869, and to-day we have, besides the National Board of Health, similar boards in twenty-three of the States,[1] in addition to numerous local organizations throughout the cities and counties of the country. Our recent pestilences have greatly stimulated this movement, which even with its present crude machinery has, on more than one occasion, demonstrated that sanitary science has not only been able to save life, but, what perhaps appeals more forcibly still to the American legislator's mind, has been productive of results involving substantial pecuniary benefits.

There still remains much to be done, and doubtless many disappointments to be endured, before we reach the desired stage of perfection in this to the nation most vital department of science. When the General Board of Health came into existence

[1] State boards of health are established in Alabama, California, Colorado, Connecticut, Delaware, Georgia, Illinois, Iowa, Kentucky, Louisiana, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, New Jersey, New York, North Carolina, Rhode Island, South Carolina, Tennessee, Virginia, Wisconsin.

in England it was so far in advance of public opinion that it soon fell to the ground, and a similar fate befell the splendid sanitary organization which was built up out of its ruins.[1] The record of many States is far from encouraging. In Indiana there is still no board of health, but there are laws to protect animals from Texas cattle disease, fish from poisoning, and hogs from hog cholera. In Maine, where the state society has striven hard but unsuccessfully to obtain a board, there has been an annual appropriation of four thousand dollars for bounty on wolves, to protect sheep. When this argument was brought forward as a reason for asking an appropriation for the protection of man, the bounty was withdrawn. Unfortunately Massachusetts is not in a position to smile at the lack of appreciation of these important questions by her sister States. It has been said that our own state board, which in its original form served as a model for the whole Union, has been worse than abolished.[2] Its efficiency has, in the opinion of medical men, been seriously impaired by the cumbrous machinery of which it now forms a part. The city board of health is in danger, and at a time, too, when we are threatened with a serious epidemic. It behooves our society, as an association of men who are better qualified to judge of the importance of these matters than any others in the State, to make

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[1] *Boston Medical and Surgical Journal*, September, 1879.

[2] In 1880 the Board of Health was united with the Boards of Lunacy and Charity.

its influence felt both by active interference through the agency of committees and by the dissemination of sound views on questions relating to the health of the community; and this, it seems to me, is one of the directions in which we are able to increase our sphere of usefulness. From time to time it has been customary to appoint committees for the purpose of memorializing the Legislature to protect the interests of the profession, or to offer testimony for or against certain questions brought before that body. This has been done, however, in a somewhat desultory manner, and it is more frequently the result of individual enterprise that the "hearings" at the State House receive the benefit of sound medical testimony. The British Medical Association intrusts this work to the Parliamentary Bills' Committee, and it would seem eminently desirable that it should be placed in the hands of a permanent committee, who with time and experience would become a trained body of men, qualified to represent the society on all such occasions, and to give a well digested opinion on all medical subjects. As very crude notions are held by representatives of the people in this State not only of the practice of medicine but of state medicine, these questions should on every occasion have the benefit of all the light which the best talent of a powerful society is liable to shed upon them. It would hardly be advisable to imitate the Alabama plan, and endeavor to obtain complete control of a work, portions of which are not within the physician's sphere.

One of the questions of the day which is beginning to attract the general attention of physicians, and on which an opinion will probably before long be expected from the society, is the regulation of the practice of medicine by means of legislative enactments.

The exaction of a requisite amount of medical skill by law is, as we all know, a measure which is of more vital importance to the public than to the medical profession; for experience has shown that the money which goes into the pocket of the charlatan would rarely, in his absence, be diverted into respectable medical channels. The suffering caused by the ignorant practitioner is, on the other hand, borne by the laity who patronize him. We should therefore let the public clearly understand that it is they we are seeking to protect, and not ourselves, in case we advise legal remedies for the evil. That the evil exists, and that it exists in a very aggravated form in this State, is, I think, denied by no one.

It was for the purpose of checking these irregularities that our society was originally founded, that the public might be able to discriminate between the honest and the wicked and ignorant.[1] Until the year 1840, nearly every State afforded some protection of this sort, but with the period of development of the so-called "sects" of medicine it has become inoperative or obsolete, or has been repealed. Connecticut had a law, dating back to

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[1] See page 475.

1792, empowering the state society to regulate the standard requisite for a practitioner. But in 1848 the same authority was given to the Botanico-Medical Society, in 1855 to the eclectics, and in 1864 to the homœopaths.[1] Maryland also had a law authorizing the state society to examine and license, which was practically amended by a law in favor of Thomsonians. New York has had an almost identical experience, as also this State. The state societies after this period were obliged to content themselves with maintaining a high standard among their own members, thus making it always possible for the public to obtain the services of a well-educated practitioner.

All restraints having thus been removed, the more flagrant forms of quackery began to thrive, until the credulity of the public has been abused to an extent probably unparalleled in modern times. The enterprise to which unrestrained license has given rise has led even to extensive criminal practices, which it is acknowledged the common law is powerless to prevent. Many States have therefore found it necessary to enact laws to regulate a system which is so productive of evil, and such laws are now in force not only in those States already mentioned, but also in California, Kentucky, New Hampshire, Vermont, and Pennsylvania, many of which were framed in imitation of the Canadian laws, the most noteworthy

[1] A "mixed" commission, consisting of one homœopath, one eclectic, and one regular physician, has recently been appointed to draft a medical practice act.

feature of which is the provision giving a position to the homœopaths and eclectics on the board of examiners.[1]

From the examples already given some estimate may be made of the effectiveness of these laws. Their advocates do not pretend that they are without defects. They have been chiefly successful in driving peripatetic practitioners out of the State, in checking the sale of bogus diplomas, and in making the struggle for existence of the more notorious forms of quackery uncertain and difficult.

On the other hand, these laws are not without grave defects. They have been chiefly objected to as partaking of the character of class legislation,

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[1] The following is a summary of the law proposed by a committee of the American Social Science Association and presented to the Legislature of this State in 1880, as summarized in an article in the *International Review* for April, 1881, by Dr. Ernest W. Cushing, who gives an able sketch of legislation on this question:—

"There should be one examining board, comprising representatives of the three medical societies,—under favorable circumstances, of dentistry and pharmacy also. All candidates for license ought to be examined directly by the board. The subject of therapeutics might be totally omitted from such examinations for the sake of harmony; or, as in Illinois, persons holding 'special or peculiar views' might be allowed, on request, to appear before individual members of the board for examination on such subjects. If diplomas must be received as evidence of qualification for licenses, the board should have full authority to 'go behind the returns,' and to reject any diploma when not satisfied that the person presenting such diploma has obtained it after pursuing some prescribed course of study, and *upon due examination*. The board should have authority to refuse and revoke licenses. A register of licentiates should be published annually. There should be provisions for licensing practitioners in other States living near the border; for permitting physicians to be called into the State in particular cases; for permitting such practice, under supervision, as is necessary for the education of students; for excepting United States medical officers, the medical officers of ships, and persons giving gratuitous medical advice in cases of emergency. The question of clairvoyant and magnetic physicians must be met in some way. The burden of prosecuting offenders under the law should rest on the legal officers of the State; not on the medical societies."

and it is difficult to persuade our legislators that they are not framed in the sole interest of the medical profession. They are unpopular with the public, as they interfere with the right of every American citizen to exercise perfect freedom in the selection of his medical adviser. To the mind of the educated physician the passage of such a law involves serious difficulties, to overcome which sacrifices must be conceded which imperil, if they do not completely counterbalance, the advantages which are supposed to be derived from it. Concessions must be made to, and the protecting influence of the law must be extended over, some of the very classes of practitioners it is proposed to reform. The States already recognize as "educated physicians" numerous sects professing belief in certain special systems of medicine, such as the eclectic, the homœopathic, the Thomsonian, the medico-botanical, etc., and are quite ready to admit into this category other practitioners without special forms of belief, or indeed of any particular education, who form themselves into associations with high-sounding titles, prepared ostentatiously to acknowledge the benefits of such a law and to claim its protection. In addition to all these there exist in this State the magnetic, the spiritualist, and medico-religious practitioners, who have a large and earnest following, whose claims would not be ignored by a committee having the bill in charge.[1]

[1] The Spiritualists in this State number probably over one hundred thousand, and a large portion of these rely upon their prophets for medical as well as spiritual relief. There are to-day men without medical

In view of such possibilities the society may do well to ask itself whether it is fulfilling its duties to the public to advise the enactment of a law which will "galvanize into an appearance of temporary activity" numerous sects of varying degrees of vitality, or give even official recognition to that class of "healers" which constitutes a very "large part of the thing to be reformed."

It will be argued that these objections in no way invalidate the main feature of the bill, which establishes a standard of education to be secured by specified examination. To which it might be said in reply that no law could be passed, the penalties for non-compliance with which could not be evaded, and that we should thus be saddled with an act uncertain in its restraining, but quite positive in its protective, influences upon the "irregulars."[1] Those who were of the latter opinion might take the view that the society would more appropriately fulfil its mission by maintaining a high standard of education among those it admits to membership, thus making the contrast between the educated physician and irregular practitioner as striking as possible, than to busy itself with special protective legislation for practice and fees.

These are some of the aspects of a question the

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training who treat disease by virtue of the "psychic force" which they possess, who are honest in their belief, and have a large and intelligent class of patients. Some highly respectable people, to my personal knowledge, are treated after sending a lock of their hair to the "doctor." It is not necessary to dig deeply beneath the surface to find an amount of credulity and superstition comparable only to that which we read of in the history of the Middle Ages.

[1] It has been said that many of those who originally fled from the law have since returned to their respective States.

advocates of which, in no way discouraged by defeat, will urge again upon the Legislature at an early day. Upon such an important subject it will be advisable for the society to have an opinion, whether it may think best to take an active part in the discussion or not.

In this connection I would call your attention to a movement which is now going on within the society, and may lead eventually to important results.

In the numerous discussions which have taken place in recent years upon the question of admitting female practitioners to the society,[1] attention has frequently been drawn to the fact that no uniformity exists in the examinations conducted by the different boards of Censors throughout the State, and that the various boards have no means of communicating with one another, or of comparing their work. An individual rejected by one of these boards may present himself for examination at some distant portion of the State, and be made a member of the society. Many of the boards, it was found recently, were ignorant of certain changes in the laws of the society. It is proposed that each board should hereafter report to the secretary of the society the names of all individuals who have failed to pass. It has also been suggested that a central committee be appointed to furnish certain information to the various boards,

[1] No attempt has been made by the writer to present this question, which has already been freely discussed in the society. There is, indeed, nothing more to be said in the way of argument.

and that meetings of this committee, with delegates from each board, should be held at stated intervals. We have here the elements of an "educational section" of the society, from which a vast amount of valuable and interesting work might emanate, and to which might safely be intrusted the task of elaborating a plan which might offer a solution of some of the difficulties attending attempts to restrict the work of irregular practitioners. The society should not forget that it is through the efforts of some of its members that one of the most interesting experiments in medical education in this country is now being successfully completed; that the medical prestige of Massachusetts is to-day superior to that of any other State in the Union; and that any such work which should emanate from medical men in this State would be regarded as valuable authority. The subject is one of the important questions of the day; a free discussion by members of the society could hurt no one, and might be productive of valuable contributions to the cause.

The position of our society toward the treatment of insanity has always been one of cordial coöperation with those gentlemen of our profession who have devoted themselves to the difficult and troublesome duties of asylum life in caring for the insane. The century's work in that respect is one of which we may be justly proud; our hospitals are among the few in the country which are free from political influences, and, through our distinguished mem-

bers, Drs. Wyman and Bell, Massachusetts has stamped its mark upon the treatment of insanity throughout the country, and indeed to a very great extent in the Old World, through the efforts of Miss Dix, who has carried our humane methods to England, Scotland, and, in a less degree, to the continent of Europe. More recently the society has shown a closer interest in insanity, as indicated by its investigations in regard to commitments to asylums, and by the fact that twelve of our number have taken upon themselves the arduous duty of being consulting physicians of the Danvers Hospital, two visiting together each month at least once. It is evident that it is not practicable to have visiting physicians in charge of insane asylums, while it is desirable to bring the interest of the profession to bear upon that important matter.

With the views of insanity held at the present time, somewhat different from those prevailing a quarter of a century ago, the work of the physician in general practice has widened as regards his relations to people suffering from mental disease. As it becomes better known, and is held more and more by the community to be simply a disease, more or less like other diseases, it will, whether treated in insane asylums or not, be each year to a greater extent advised upon by the practising physician. The character of our institutions, too, must be changed to a considerable degree from being receptacles or boarding-houses for all kinds of mental deficiency to asylums for the incurable

and hospitals in the strict sense of the word, with every appliance which art and science can afford for remedial treatment. In the discussion of this vast question our society can coöperate with the officers of the hospitals for the insane, and an enlightened public opinion which demands more scientific work, and help to place the whole subject in a better light before the community by increasing confidence where there is now unmerited distrust, by showing the falseness of exaggerated complaints, and by assisting all real progress and wise reform. The society is in a position to assist in guiding the legislation regarding insanity in a judicious direction, to help form opinion upon the best methods of improving our hospitals for the insane, and to raise the standard of professional and public knowledge of the causes and prevention of that obscure disease.

The unsatisfactory state of the laws relating to medical expert testimony has from time to time caused much discussion in this State, and cannot fail to have impressed every member of the society who has been called to the witness stand. It is, to say the least, an incongruity that his opinion, which, like that of the presiding officer, is judicial in its character, should be paid for, and to a certain extent controlled, by one of the parties to the suit, and that there should be no discrimination exercised in the selection of individuals who are expected to give testimony of a high scientific value. The abuses of this system are so many-sided, and such striking examples have occurred lately, that

it is hardly necessary to draw your attention to them in detail.[1]

In 1868 our society united with the American Academy of Arts and Sciences to present to the Legislature the draft of a law prepared by the late Hon. Emory Washburn, giving discretion to the court to appoint and require the attendance of one or more persons to be examined as experts. It was referred to the judiciary committee, but never came to light afterwards. A committee of the Massachusetts Medico-Legal Society, of which the attorney-general of the State was chairman, has within a year prepared the draft of a bill for legislative action. This bill provides "that in any action, suit, or proceeding, civil or criminal, in which the testimony of a medical expert witness is desired," the parties must make another agreement upon a suitable person, or if they fail to agree the court must appoint the same, upon whom a subpœna will then be served, and whose expenses will be paid by the court, the defeated party being liable to refund the amount. The court may also call other witnesses if it so desires, and in a criminal case the defendant is allowed additional witnesses at his own cost.

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[1] Among recent contributions to this subject may be mentioned articles by Professor Washburn, *Transactions of the American Public Health Association*, vol. iii.; *Transactions of the Massachusetts Medico-Legal Society*, vol. i. No. 2, by Attorney-General Marston; and *The Quarterly Journal of Psychological Medicine*, vol. v. (1871), by J. J. O'Dea. Also papers in the *Boston Medical and Surgical Journal:* Medical Expert Testimony, by F. W. Draper, M.D., November 4, 1880; A Case of Abortion with Acquittal, by F. A. Harris, M.D., April 14, 1881; So-Called Concussion of the Spinal Cord, by R. M. Hodges, M.D., April 21, 1881.

At a meeting of the Boston Society for Medical Improvement, held last autumn, a committee was appointed to coöperate with other societies in this matter, and it was then suggested that the Massachusetts Medical Society possesses the element of organization out of which some plan might be evolved which should serve to determine more definitely the status of the medical expert.

It appears that the English method is open to abuse, like our own, while in Germany the law provides for official experts, and under the French plan the choice of the expert is left to the discretion of the court. In the last two countries, the medico-legal results are said to be admirable, and in striking contrast to the results with which we are familiar.

In connection with this subject, I would call the attention of the society to the extraordinary facility with which suits for malpractice are brought against reputable physicians, a form of business enterprise which, I regret to say, lawyers of the highest respectability in this city consider as perfectly legitimate work to be engaged in. Nothing is better calculated to bring the majesty of the law into disrepute than a system which permits, under the guise of legal processes, a rascally attack upon the pockets of a hard-working and innocent man, while the blunders of the ignorant quack are allowed to go unpunished. It has been suggested that judges should exercise some right of supervision, so that fraudulent suits should be prevented from obtaining a place on the dockets, or that all

costs, including the defendant's counsel fees, should be paid by the plaintiff if he loses his case.[1] The society would do well to urge some such restrictive action.

The labors of those engaged in the department of experimental medicine have fortunately not yet been interfered with by the anti-vivisectionists. The great importance of this work in enabling us to acquire more accurate knowledge of the laws of health and disease is doubtless duly appreciated by members of the society. The study of medical science is still in its infancy in this country, but a great deal of valuable original work has already been done, and the profession has reason to be proud of its record in this department. Still a crusade, such as has swept over England, would strike a severe blow at further progress in medical knowledge. The public should be taught that this is a legitimate field of study, and one which has wrested from nature many valuable secrets. The Medical Society of the State of New York has set a good example to other societies in protecting her scientific men from attempts to interfere with their work by legislation. Repeated efforts to obtain such legislation have been foiled by the agency of individual members, who have promptly put their senators and representatives in possession of the facts of the case.

It has been the policy of the society of late years to offer, in addition to its time-honored certificate

[1] *Boston Medical and Surgical Journal*, February 17, 1881, page 160.

of membership, special advantages to each Fellow individually. The wisdom of this plan is shown in the thriving character of such associations as adopt the expedient. Volumes of Transactions, although extremely valuable in preserving an historical record of the society's work, cannot be placed in this category. On the other hand, a medical periodical included as part of the returns to be obtained from the annual assessment is something tangible, which becomes a connecting link to those members who, owing to circumstances, are unable to take an active part in the work of the society. The annual dinner has also proved a most useful feature in bringing together a larger number of members at one gathering than any other society can boast of, and in securing prompt payment of the society's dues. The excellent retrospect of medical science distributed to each member has been a popular and useful experiment. It gives to the busy member of the society valuable hints for use in practice, and affords interesting reading at the same time to the literary and scientific man. Like the patent food or nutritive enema, it administers its pabulum in a convenient and condensed form to those whose minds are intolerant of the more tedious processes by which the original article is usually administered.

The suggestion has, however, been made from several quarters, particularly from districts which depend chiefly upon the publications which the society offers, that a weekly periodical would be a more satisfactory form of journal, and that the

patronage of native work would be more in keeping with the spirit and traditions of the society. The "semi-annual" and the "quarterly" are types of periodical literature which are gradually becoming extinct. Science moves too rapidly, and is too impatient of delay, to use such ponderous vehicles. A vigorous and progressive association like our own is hardly keeping up with the times in contenting itself with receiving the work of others at second hand and at long intervals, while it allows its own to be hidden in the volumes of Transactions. The same arguments which have been so frequently urged in behalf of a weekly journal for our national association are equally true of each state society. Were a group of States like those of New England to unite upon a common medium of inter-communication, the stimulus to society work of all kinds would be immense, and the advantages of coöperation would bring with it great power. It will be a glorious day, both for medical societies and medical literature, in this country, when this principle becomes recognized.

There is one more topic to which it might be appropriate to allude on such an occasion as this, and that is the manner of conducting our annual meetings. In former years one day was considered sufficient to accomplish all the work the society had to do; but since 1866 a second has been added. It is a frequent criticism that annual gatherings of medical men rarely accomplish any really useful scientific work, being chiefly of a social character. So far as the strictly literary work of the meetings

is concerned this is frequently true, but the metropolis at which the gatherings are held becomes for the time being a medical exhibition on a large scale. The hospitals, schools, and museums, and medical institutions of all kinds, are prepared for the occasion. New inventions, new methods of management, groups of interesting cases, are shown in this way, and any new surgical operation or scientific discovery can thus be brought publicly before the profession. At the last two meetings an innovation has been introduced in the shape of an exhibition of drugs, instruments, and medical books in a room adjacent to the hall of the meeting. As a convenience to visiting members this has proved satisfactory; but a more interesting form of exhibit would be a collection of all apparatus and inventions devised by members of the society. The success of the historical collection of instruments and books this year will, I think, be sufficiently great to suggest a continuance of exhibitions in which members participate. That portion of the meeting which needs life infused into it, and into which at this centennial period it would be most appropriate to introduce a new order of things, is the literary work of the society on the first day. Many excellent papers are annually read, but little encouragement is given to the readers to repeat the experiment. Such an exercise without an accompanying debate is a meaningless, and I might venture to add almost useless, performance. The meeting is thinly attended, and the exercises languish. Such was the condition of

most society meetings in this neighborhood a few years since, but a new spirit has been infused into our Boston societies, which it is to be hoped has not been made at the expense of the parent society. The secret of success lies in the care with which the work of the meeting is cut out beforehand. Nothing should be left to chance, with all its terrible possibilities; but a debate, participated in by men whom all are anxious to hear, should be organized early in the season, giving ample time for preparations. Important questions of the day might get the benefit of careful study from our best men,[1] and we might aspire to produce in this way some original work.

The formation of the Medico-Legal Society, which has proved so valuable an adjunct to our annual meetings, shows how useful a body an organization designed for special work may become. As the wants of any special department of medicine became urgent in the State, similar societies might be formed, which might or might not be sections of the Massachusetts Medical Society.

The educational section has already been alluded to, and would come next in order. Some such plan of gradual development would be preferable to assigning all work to special sections, which, so far as I am aware, state societies have not yet attempted. Departments which might be contemplated in the near future would embrace those branches of state medicine which relate to insanity

[1] The methods of the International Congress and of some of the English societies are especially to be commended in this respect.

and to hygiene, bodies which medical officials in the State would naturally turn to for advice or support, and from which, did they exist to-day, work of great value to the State might emanate.

I have thus attempted to sketch the plan of organization of our society from its beginning, and to offer a few suggestions for work in the future. When we compare it with some of the representative bodies of the world, the results of a century's growth are certainly gratifying. In pausing at the first great halting place, to look back through one hundred years, the eye sweeps over a period of unbroken prosperity, unmarred by disputes or factions. In spite of the various waves of delusion or pseudo-science which have passed over the community during that period, the society has maintained an unbroken front, and has always rallied round the flag of truth and integrity. Its attitude has been the only one which a truly scientific body could take. It has been the champion of perfect liberty of action to all, but has withheld the hand of fellowship from those who would deny this boon to others, or would seek to enchain science with the manacles of theory or deceit.

The veterans to whom much of this credit is due are passing away, and younger heads and hands are coming forward. In behalf of the latter, I would say that we assume the trust with a full sense of its responsibility, encouraged by the hope that the century which now opens before us may be as full of harmony and prosperity for our society as the one which has passed away.

A

CENTENNIAL ADDRESS.

By SAMUEL ABBOTT GREEN, M.D.,

OF BOSTON.

DELIVERED IN THE SANDERS THEATRE, AT CAMBRIDGE,

JUNE 7, 1881.

ARTICLE XXII.

CENTENNIAL ADDRESS.

I.

The Massachusetts Medical Society is about to enter upon the second century of its existence. Following the custom of this centennial period, it proposes to celebrate the anniversary of its origin by the story of its life. It was born in troublous times; and its founders were still engaged more or less actively in a political struggle which even to-day, by reflex action, is exerting a powerful influence on the events of the world. It was during the War for Independence that the physicians and surgeons of this Commonwealth were led to feel the need of some association in order to encourage professional studies. A new field was then opened for medical investigations, and the workers were eager to cultivate it. At no previous time had so many medical men of the State been brought into close relations with one another, or in contact with their brethren from other States; and this intercourse necessarily stimulated inquiry and discussion, and produced a community of professional feeling, such as had never before existed. In union there is strength; this was true in war, and it was true in peace.

They saw that better results were accomplished by concerted action than by individual effort; and they were then ready to associate themselves together for the purpose of improving the practice and raising the standard of its study. It is a singular fact in the social economy of affairs, that some of the oldest and most learned scientific associations, both in this country and in Europe, have been formed during the clash of arms and the din of war ; and this Society is no exception. Nothing happens in this world by chance, though oftentimes it may be difficult to discover the law which underlies a principle.

The Massachusetts Medical Society was incorporated on November 1, 1781, and its charter was signed by Samuel Adams, as president of the Senate, and by John Hancock, as governor of the Commonwealth. These patriotic names suggest Revolutionary times. It will be noted that the centennial anniversary of the birth of the Society does not occur for some months to come; but it is fair to assume that the preliminary steps for its organization cover this interval. In the presence of this audience it need not be said that a period of gestation always precedes a birth; and without attempting to fix the limit of this period I shall assume that it is now a century since the conception of the Society took place in the brains of its founders.

There had been before this time a medical society in Boston, which was the first one formed in America. It appears to have been in existence as early as the year 1735, though it did not continue

long. Its records are irretrievably lost, and all that is known about it is gathered from fragmentary sources. It is very likely that it included in its list of members some of the ministers, as they were interested in the study and practice of medicine. Dr. William Douglass, a noted author and physician of that day, writes, under date of February 18, 1735–36, to Cadwallader Colden, of New York, that

> . . . We have lately in Boston formed a medical society, of which, this gentleman [Dr. Clark, the bearer of the letter], a member thereof, can give you a particular account. We design from time to time to publish some short pieces; there is now ready for the press number one, with this title-page:—
>
> NUMBER ONE,
>
> MEDICAL MEMOIRS
>
> CONTAINING
>
> 1. A miscellany. Practical introduction.
> 2. A history of the dysentery epidemical in Boston in 1734.
> 3. Some account of a gutta-serena in a young woman.
> 4. The anatomical inspection of a spina ventosa in the vertebræ of the loins in a young man.
> 5. Some practical comments or remarks on the writings of Dr. Thomas Sydenham.
>
> *Published by a Medical-Society in Boston, New-England.*

This letter is now among the Colden Papers, in the possession of the New York Historical Society; a copy of it is printed in the second volume, fourth series, of the Massachusetts Historical Collections (pages 188, 189).

Gutta serena, Englished into drop serene, was the cause of Milton's blindness. The poet alludes to himself, when he says:—

> "Eyes that roll in vain
> To find thy piercing ray, and find no dawn;
> So thick a drop serene hath quenched their orbs."

The disease was afterwards known as amaurosis. Spina ventosa is an affection of the osseous system,—according to old notions,—in which the texture of the bone dilates, seemingly distended with air.

The first number of these "Medical Memoirs" was never printed. It was probably Dr. John Clark, at that time an eminent practitioner of medicine, who is referred to in the letter, as a member of the Society. He was born on December 15, 1698, and was then at the height of his professional zeal, when he would naturally be interested in a scientific association. He belonged to a family of medical antecedents and traditions, being himself of the fourth generation in a direct line of John Clarks, all physicians, and he was followed by three more, equally direct, of John Clarks, these three also physicians,—covering a period of more than a century and a half and including seven generations of the same name.

During the year 1736, Dr. Douglass published a pamphlet entitled "The Practical HISTORY of a New Epidemical Eruptive Miliary Fever, with an Angina Ulcusculosa which prevailed in *Boston* New England in the years 1735 and 1736." It is inscribed, "To a Medical Society in *Boston*," and the preface begins :—

"Gentlemen, *This Piece of Medical History does naturally address it self to you, considering that I have the pleasure of being one of your number, that you have been fellow labourers in the management of this distemper, and therefore competent judges of this performance, and that where difficult or extraordinary Cases have occurred in any of your private practice, I*

was favoured to visit the Patients in order to make a minute Clinical enquiry: in short, without your assistance this piece would have been less perfect, and not so well vouched."

In "The Boston Weekly News-Letter," January 5, 1737, there is a long communication, addressed "To the Judicious and Learned President and Members of the *Medical Society* in *Boston*," and signed "*Philanthropos*." It takes strong ground in favor of regulating the practice of physic throughout the province, and advocates the plan of having all practitioners examined by a board of physicians and surgeons appointed by the General Court. The writer is justly severe on the "*Shoemakers*, *Weavers* and *Almanack-makers*, with their virtuous Consorts, who have laid aside the proper Business of their Lives, to turn Quacks."

In the same newspaper of November 13, 1741, is an interesting report of a surgical operation performed about that time for urinary calculus, on Joseph Baker, a boy six years old. It was done "in Presence of the Medical Society," by Dr. Sylvester Gardiner, and "according to Mr. *Cheselden's* late Improvement of the *lateral* Way." The report begins:—

"*A* Medical *Society in* Boston New-England, *with no quackish View, as is the manner of some; but for the Comfort and Benefit of the unhappy and miserable Sufferers by the excruciating Pain, occasioned by a Stone in the Bladder, do Publish the following Case.*"

Dr. Gardiner, the operator in this case, was a rising young surgeon who had studied his profession in London and Paris. He began the prac-

tice of medicine in Boston, where he also lectured on anatomy, which he illustrated by preparations brought from Europe. His enterprise led him to establish an apothecary's shop, in which he carried on an extensive wholesale and retail business. His career as a physician and surgeon was attended with remarkable success, and he soon acquired from his profession both fame and fortune. His prosperity, however, was interrupted by the political troubles which preceded the Revolution, and during the struggle he took sides with the mother country. He thus became odious to the patriots; and when Boston was evacuated by the British troops, he was compelled to leave his native country and pass eight or ten years in exile. He finally returned and died at Newport, Rhode Island, August 8, 1786, in the 80th year of his age.

Although the Medical Society in Boston was short-lived, no account of the history of medicine in the State would be complete which did not mention its existence. In its day it exerted a good influence on the profession, and showed a zeal on the part of the physicians which is alike honorable to their heads and creditable to their hearts. The origin of the Society may have had some connection with the epidemic of diphtheria which broke out in Boston during the summer of 1735; at any rate, it was organized about that time. It is known to have been in existence late in the autumn of 1741, though ten years afterward there was no trace of it. Dr. Lloyd, who began the practice of medicine in Boston about the year

1752, and continued in it for more than half a century, had no recollection of such an association. This last fact is mentioned by Dr. Bartlett, in his address before the Massachusetts Medical Society, June 6, 1810, and shows that it had disappeared before Dr. Lloyd's time. The founders of this local society, the pioneer association of its kind in the country, represented the active medical thought in Boston; and though they are unknown to us even by name, deserve on this occasion a tribute which is freely given.

A long generation passes, and the Massachusetts Medical Society takes the field, and occupies the broad limits of the State, including the district of Maine. Many of the original members had served in the army, and were familiar with the capital operations of the hospital and the battle-field, while others had filled important public positions of a civil character. In any presence they would have been considered accomplished physicians and surgeons, and they were the peers of other professional men. Together with the clergy they represented the education and refinement of the community. But before entering upon the history of this venerable corporation, I may be allowed to go back and give a sketch of the rise and progress of medicine in Massachusetts during the colonial and provincial periods.

When the Pilgrims landed at Plymouth in the winter of 1620, they found that a few years before their arrival a deadly pestilence had raged all along the New England seaboard, and that the natives

had been more than decimated by the epidemic. Cotton Mather says:—

"The *Indians* in these Parts had newly, even about a Year or Two before, been visited with such a prodigious Pestilence; as carried away not a *Tenth*, but *Nine Parts* of *Ten* (yea, 'tis said *Nineteen* of *Twenty*) among them: So that the *Woods* were almost cleared of those pernicious Creatures to make Room for a *better Growth.*"[1]

The diagnosis of this disease has been much discussed. By some writers it has been called the plague; but this is a vague term and means neither one thing nor another. Johnson calls it "a sore Consumption, sweeping away whole Families."[2] Gookin, who wrote many years later, and who had talked with those who remembered the cases, says that "the bodies all over were exceeding yellow, describing it by a yellow garment they showed me, both before they died, and afterwards."[3] According to Winslow,[4] the same disease prevailed among the Indians as late as November in the year 1622, which fact seems to eliminate yellow-fever. This would seem to leave small-pox as the disease in question, of which the description is in some respects good. During many years, there had been some slight intercourse between the Indians and stray Europeans who came to the coast on fishing voyages, and it is more than probable that the loathsome disease was thus introduced. Within the period of re-

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[1] Magnalia, Book i., Chap. ii. 7.
[2] Wonder-Working Providence of Sions Saviour, in New England, Chap. viii. 16.
[3] Massachusetts Historical Collections, i. 148.
[4] Good Newes from New-England, page 18.

corded history, it is known that whole villages of the natives have been swept away by this sickness. The Indians had no knowledge of medicine, but were accustomed to treat disease largely by incantations and powwows. There is, however, a popular belief to-day that the Indian doctor is skilled in botanical remedies, as he is wont to use the infusions and decoctions of various roots and herbs. While there is no ground for such an impression, he will yet be consulted as long as the race of simpletons continues to exist—perhaps till the millennium. The ravages of small-pox among the ignorant natives were fearful, as they had no knowledge of inoculation or vaccination; and thus a new danger opposed the white settlers, who were already overburdened by their cares and trials.

During the first winter at Plymouth, the colonists lost half their number by disease, and of the other half most of them were sick, and so weak that they could not take proper care of themselves or of each other. Scarcely twelve men were left alive in the settlement, and only about three times as many women and children to share in their misery. Fifty persons, all told, included the whole population of Plymouth in the spring of 1621. They suffered fearfully from scurvy, and this was largely the cause of the great mortality which befell them. Says Wood, in his "New Englands Prospect:"—

. . . "whereas many died at the beginning of the plantations, it was not because the Country was unhealthfull, but because their

bodies were corrupted with sea-diet, which was naught, the Beefe and Pork being tainted, their Butter and Cheese corrupted, their Fish rotten, and voyage long by reason of crosse Winds, so that winter approaching before they could get warme houses, and the searching sharpnes of that purer Climate, creeping in at the crannies of their crazed bodies, caused death and sicknesse" (page 4).

The colonists had left comfortable homes and settled in a distant wilderness during the inclement season of winter. With none of the customary conveniences of life, they had almost everything to exert a depressing influence. The sensitive ones must have yearned for their native land; and it is not strange that the scorbutic taint, with the intercurrent and superadded nostalgia, proved so fatal. Homesickness is always a strong element in weakening the power to resist disease. Among the passengers who came over in the "Mayflower" was Deacon Samuel Fuller, who survived the sickly season. He was the first physician in the colony, and was for some time the sole physician; and often he must have been troubled to devise means for the care of his patients. His practice was extensive, taking him to Salem, Boston, and other towns in the neighboring colony. During the first ten years of its existence, the Plymouth settlement had reached a population of only two hundred and fifty persons, and some of these lived in places remote from the town. Besides his practice Deacon Fuller—I am sure he would have preferred his church title to any professional one—eked out a livelihood by tilling the soil, after the manner of his neighbors. He died in the year 1633, and by his death the settle-

ment lost one of its most valued and useful inhabitants.

In the early days of New England, it was not customary to address or speak of a physician by the title of doctor. Perhaps one reason for this was that there were so very few persons who had ever taken a medical diploma. The custom of giving the title has literally grown up by degrees. The earliest instance of its use that I have found, is in the Roxbury Church Records,—recently published as "A Report of the Record Commissioners" (Boston, 1881),—where an entry is made under the date of November 5, 1668, which alludes to "Doctor Emery," of Salem.—(Page 207.)

A surgeon was formerly called a "chirurgeon," which word by use has been worn down to its present form. It means literally one who performs the manual part of medicine, and originally referred to the external treatment of disease. It is well derived, and was the name always applied in colonial times to one whom we call a surgeon. In England, even at the present time, a surgeon is not addressed as *Doctor;* but he always has the title of *Mister* (*i. e.* Mr.) given to him.

Governor Edward Winslow was skilled in the practice of medicine, and even among the Indians had a wide reputation for his treatment of disease. He was once summoned to visit Massasoit, a prominent chief, who was seriously sick, but who recovered under his care. As a mark of his gratitude, the faithful sachem revealed to the English a plot that was forming against them, but which

was averted by the timely information. A full report of the case with the treatment is found in Winslow's "Good Newes from New-England."—(London, 1624,) pages 25–32.

Plymouth colony, owing to its small and sparse population, had only a few physicians. At the time of its union with Massachusetts under the second charter, it contained but 9,000 inhabitants, and it can easily be inferred that its influence on the general practice of medicine was of little account. The founders of Massachusetts were men of more education and larger means than those who settled Plymouth, and in the natural course of events it is not strange that they should have politically absorbed the older colony. On the other hand, the founders of Plymouth were men of deep religious thought and convictions, and they set in motion a system of ecclesiastical polity which has since overrun Massachusetts ; and today the church government prevailing in this State is more closely allied to that which existed in Plymouth than to any other form. I make this digression in order to show that it is not always numbers that count. In the plan of creation the fittest will survive.

Before the colony of Massachusetts Bay was fairly launched in England, the question of a medical man to accompany the planters was discussed by the Company. At one of its earliest meetings, held March 5, 1628, it is recorded that :—

A Proposicon beeinge made to Intertayne a surgeon for [the] plantacon M[r] Pratt was ꝑpounded as an abell man vp[on]

theis Condicons Nameley That 40^{lb} should bee allowed him viz^{t} for his Chist 25^{s} the Rest [for] his owne sallery for the first yeere puided yt he [continue] 3 yeeres the Comp̃. to bee at Charge of transporting his wiffe & a ch[ild] haue 20^{l} a yeere for the other 2 yeeres & to build him a ho[use at] the Comp̃ Chardge & to allott him 100 acr^{s}. of ground but if he stay but one yeere then the comp̃ to bee at Chardge of his bringing back for England & he to Leaue his s^{r}u[ant] and the Chist for the Comp̃ seruice."

Agreed wth Robert Morley s^{r}uant to M^{r} Andrewe Mathewes late barber surgeon to s^{r}ue the Comp̃. in Newe England for three y[ears] the first yeere to haue 20 nobles the second yeere [30? and the third] yeere 20 markes, to serue as a barber & a surgeon [on all] occasyons belonging to his Calling to aney of this [Company] that are planters or there seruants, and for his [chest and] all in it whereof he hath geeuen an Inuentory . . . sight of it It bee approoued ffyve pounds Is . . . and payd to him ffor it & the same to bee fo[rthwith payd.]—(General Court Records, i. 3^{a}.)

Mr. Pratt's given name was John; and after coming to New England he lived at Cambridge. The last entry in these records reminds us of the time when barbers were doctors by brevet, as it were, and performed many operations of minor surgery, such as pulling teeth, bleeding, and cupping. A noble was worth about 6*s.* 8*d.*; and a mark was double the value of a noble.

For many years before the Puritans came to this country, they were subjected to bitter persecution ; and foreseeing the possibility of an ejectment, a considerable number of their ministers studied medicine. They saw the probable needs of the future, and fitted themselves, as best they could, for any emergency that might arise in a new settlement; hence they formed a large proportion of the early physicians of Massachusetts. History repeats herself, and we see to-day American missionaries who first study medicine as a par-

tial preparation for their new duties. In fact it is a custom as old as civilization itself, that the priests are the ones to collect and preserve the traditions of medicine. These Puritan ministers were men of liberal education, and some of them authors of the earliest medical treatises printed in America. It was with them a matter of conscientious duty to heal the body as well as to save the soul. Each one practised in his own flock, and for his fee generally received that which is considered better than money, though not equally current at the counter. Occasionally they took part in the medical controversies of the day, and defended their views with much skill and ability. Cotton Mather speaks of this union of the two professions as an "Angelic Conjunction," and says that "ever since the days of *Luke* the Evangelist, Skill in *Physick* has been frequently professed and practised, by Persons whose more declared Business was the Study of Divinity."[1]

At the period when Massachusetts was settled, medicine was an art rather than a science, and just ready to take a new departure under the guidance of Sydenham. Certain facts about disease were learned by rote, as it were, and the treatment was nearly the same in all cases without regard to the minute symptoms. The public believed in *specifics;* and remedies were prescribed, as if they were infallible or sovereign. Says Shakespeare:

> "The sovereign'st thing on earth
> Was parmaceti for an inward bruise."

[1] Magnalia, Book iii., Chap. xxvi. 151.

About this time there were in Europe two schools of medical practice, of which the one was in the habit of prescribing vegetable substances alone, and the other for the most part mineral preparations. The first of these schools was denominated the Galenists, as they were supposed to follow the teachings of Galen ; and they might be termed the botanic doctors of that day. The other school adopted the doctrines of Paracelsus, and gave "chemical" medicines, which included mineral substances and a few of the most active vegetable compounds. The supporters of the second school were sometimes called chemists. There was of course a bitter rivalry between the two sects; and, if everything that was said about the one by the other was true, the poor patients had to suffer. It is very likely that the prejudice existing to-day against mineral medicines dates back to this hostility.

The following advertisement appears in "The Boston Gazette," June 19, 1744, and alludes to the medicines of the two schools. The advertiser, Mr. Gardiner, who has been mentioned before in these pages, was not only the most noted druggist in New England, but also an accomplished physician and surgeon:—

"*Just imported in the Ship from* London, *And to be Sold by Mr. Sylvester* Gardiner, *At the Sign of the* Unicorn *and* Mortar *in* Marlborough-Street.

All Sorts of Drugs and Medicines, both Chymical and Galenical; where all Doctors, Apothecaries or others, may be supply'd with the very best and freshest of Either at the lowest Price ; and Captains of Ships with Doctor's Boxes put up in the neatest and best Manner; with printed Directions: Likewise all Mer-

chants may be furnished at the same Place with Surgeons Chests put up in the same Manner, and at the same Price, as they are for the Royal Navy, at the Apothecary's Hall in *London;* where *only* are to be Sold by Appointment of the Patentees, the true Doctor *Bateman's* Pectoral."

The early physicians of New England, however, do not seem to have entered into this medical controversy, but gave such remedies as they saw fit, without regard to either school, though they followed a routine practice. The relation of cause and effect was slighted by them, and an air of mystery and superstition pervaded the whole domain of therapeutics. The literature of the profession was scanty, and for that reason easily mastered. They had no knowledge of pathology, and but little of anatomy. It must not be forgotten that there were but very few regular graduates of medicine in the country for more than a hundred years after its settlement. From the year 1667 to 1730, a period of sixty-three years,—according to Judd, in his History of Hadley, Massachusetts,—there was neither physician nor surgeon in Northampton, a large and rich town; though at one time an unsuccessful attempt was made to obtain a bone-setter.—(Page 616.) In such places there was always some good housewife who acted as nurse on important occasions, and she generally performed well the part of a doctor. Only to this audience I will whisper, what must not be repeated abroad, that there was as little sickness and as much longevity in Northampton as in other towns that were favored by physicians. Every household had its simple do-

mestic remedies for common complaints, and few were the families that did not possess some old book containing manuscript receipts for ordinary ailments.

The remedies used by the early practitioners of New England were largely made up of simples, as they were called, in contradistinction to compounds, and consisted principally of herbs dear to old women, though none the less valuable on that account. Occasionally they strike us as absurd, and sometimes excite feelings akin to disgust. An electuary of millepedes looks learned, and sounds as if it might be sweet ; but looks are nothing and sound is empty, when we consider that *millepedes* is the scientific name for sowbugs, so common in the country, under damp, soggy planks. Excretions and secretions were employed as curative agents, and had their particular parts to play in the treatment of disease. These remedies were prescribed at times by the best physicians two hundred years ago. In England, during this period, the practice of medicine was equally crude. When Charles II. was on his death-bed, according to Macaulay, he was bled largely, and a loathsome volatile salt, extracted from human skulls, was forced into his mouth.

In "The Boston Gazette, or, Weekly Advertiser," December 18, 1753, is a long communication, covering two pages of the newspaper, setting forth "*Examples of Great Medicines* drawn from *unpromising Bodies.*" It is made up of extracts from a work published at Oxford, England, in the

year 1664. The article is printed with the following sub-headings: "*Medicines* out of *Soot;*" "The *Use* of *Horse-dung;*" "*Medical Virtues* of *Human Urine;*" "*Medicines* out of *Humane Blood;*" and "The *Great Effects* of *Sow Buggs.*" Under the second sub-heading the writer goes on to show that "there are not any Medicines to be taken into the Body more cheap and contemptible than the *Excrements* of *Men* and *Horses*, and than *Insects;* and yet that even these want not considerable Medical Virtues." He furthermore asserts that "the *juice* of *Horse-dung*, especially of *Stone-horses*,"—*i. e.* stallions,—is good for the stoppage of urine, and certain other complaints.

The early physicians used to place much reliance on the powers of nature to expel the *materies morbi* from the system, particularly by way of the kidneys; and a glass vessel to hold the urine was considered a necessary article in the sick-room. A very superficial examination of the fluid was made, by holding it up between the light and the observer, in order to see its color, and whether it was clear or turbid; and from the condition of the water the conclusions were drawn.

The following signs of urine are taken from a book, by W. Mather, and published probably at London in the year 1684. It is a volume of 466 pages, but the title-page is missing:—

"1. Red Urine signifieth heat of the Blood.

"2. White, rawness and indigestion in the Stomach.

"3. Thick, like puddle, excessive labour or sickness.

"4. White or red gravel in the bottom threatens the Stone in the Reins.

"5. Black or green, commonly death."

Dr. George Emery, a Salem physician of unsavory reputation, in November, 1657, was fined forty shillings

"for changing a bottle of water of Goody Laskin, & respitted untill next Court & to be remitted if he shall acknowledge he did euill in it, or not well in soe doing & ffees Court 30d."—(Essex County Records, Salem Court.)

John Josselyn, an Englishman, came to this country in the summer of 1663, and afterward wrote a book, which was entitled "*New Englands* RARITIES Discovered : in *Birds*, *Beasts*, *Fishes*, *Serpents*, and *Plants* of that Country. Together with the The *Physical* and *Chyrurgical* REMEDIES wherewith the *Natives* constantly use to Cure their DISTEMPERS, WOUNDS, and SORES." It was published at London in the year 1672, and contains a large number of homely remedies to be found in the *fauna* and *flora* of the country. The following morsels of medical wisdom are taken from different parts of it :—

Picking the gums with the bill of an osprey is good for the tooth-ache; Bear's grease is good for aches and cold swellings; Beaver's cods are much used for wind in the stomach and belly, particularly of pregnant women; Moose horns are much better for physick, than the horns of other deer; A stone found in the head of the cod-fish, when pulverized, stops fluxes of blood, and one found in their bellies is a remedy for the stone in the bladder; Scarifying the gums with a thorn from the dog-fish's back cures tooth-ache; The heart of a rattle-snake is an antidote to its bite ; Burning "spunck, an excresence growing out of black birch," in two or three places on the thigh of a patient, helps sciatica; Watermelon is often given to those sick of fevers, and other hot diseases, with good success.

Much dependence used to be placed, as I have already said, on the use of roots and herbs ; and the various kinds thought to possess healing prop-

erties were carefully gathered during their season and preserved for future use. Many herbs, originally brought from England for their medical virtues, have since become naturalized, and are now good American plants. Some have multiplied so rapidly and grown so plentifully in the fields and by the roadside, that they are considered common weeds. Wormwood, tansy, chamomile, yarrow, dandelion, burdock, plantain, catnip, and mint, all are plants that came here by importation. Of course there were indigenous ones which the natives used medicinally; and a knowledge of these they imparted to the whites. The foreign plants made their way into the interior, as fast as civilization extended in that direction. Dr. Douglass, in "A Summary, historical and political, of the First Planting, Progressive Improvements and Present State of the British Settlements in North-America," first published at Boston,—Volume I. in the year 1749, and Volume II. in 1751,—says:—

"Near *Boston* and other great Towns some Field Plants which accidentally have been imported from *Europe*, spread much, and are a great Nusance in Pastures, . . . at present they have spread Inland from *Boston*, about 30 Miles."—(ii. 207.)

Such was the popular faith in botanical treatment that a family was considered improvident, which did not have on hand a goodly stock of dried specimens of *materia medica*. When sickness invaded the household, the pages of the receipt-book—a sort of family physician—were carefully scanned in order to find some balm to relieve the unlucky sufferer; and when something was found

to meet the case, it was given without rhyme or reason, to the weal or woe of the patient! Most of these so-called remedial agents were innocent of positive good or evil, and at the worst could only put off for a short time the period of recovery. But in some cases the wonder is that the poor patient got well at all after the polypharmical treatment. If he was strong enough to withstand the effect of the dose, he lived to bless the remedy, in the firm belief that his restoration was due to the medicine.

John Winthrop, the founder of Boston and Governor of Massachusetts, was well versed in medicine, but his public services to the colony were so marked that his minor ministrations among friends and neighbors are thrown into the background. The venerable Cotton says of him just before his death, that he had been a "*Help* for our *Bodies* by *Physick*, for our *Estates* by *Law*."[1]

His son, John Winthrop, Jr., for some years an inhabitant of Massachusetts and afterward Governor of Connecticut, was a noted physician. He was one of the earliest members of the Royal Society of London and an accomplished scholar. He had a large correspondence with scientific men, from which many interesting facts are gathered about medicine in the early history of the colony. A third generation of the family represented in the person of Wait Winthrop, a son of John, Jr.,

[1] Magnalia, Book ii., Chap. iv. 15.

was also proficient in the profession. In Cotton Mather's sermon, preached at his funeral, November 7, 1717, there is an "Epitaphium," from which the following is an extract:—

MEDICINÆ Peritus ;

Qui Arcanis vere Aureis, et Auro preciosioribus potitus;
Quæque et *Hippocratem* et *Helmontium* latuerunt,
Remedia panacæasque Adeptus;
Invalidos omnes ubicunque sine pretio sanitati restituit;
Et pene omnem Naturam fecit Medicam.

In his "History of New England" (II. 315, 316), Governor Winthrop mentions the first appearance in Boston of a particular malady of a constitutional character, which is coeval with the history of mankind. It was brought from Spain by a sailor during the spring of 1646, and is called in Winthrop's account by the name of *lues venerea*. It was some time before its real nature was "discovered by such in the town as had skill in physic and surgery, but there was not any in the country who had been practised in that cure;" and during the interval sixteen persons became affected. Fortunately at this period a young surgeon happened to arrive, "who had had experience of the right way of the cure of that disease," and, as the record goes, "He took them in hand, and through the Lord's blessing recovered them all [*blank*] in a short time." For the reputation of the sailor's wife who had just been delivered of a child, I will add that the disease is supposed to have been spread by the neighbors who drew her breasts as well as suckled her baby. The magistrates took

the case under consideration, but came to no satisfactory conclusion in regard to it. It was thought by some "that the woman was infected by the mixture of so many spirits of men and women as drew her breast." This is the earliest recorded instance in the colony of a form of disease which is familiar to physicians and common in all seaport towns.

Winthrop, in his History (I. 313–316), gives also another occurrence of medical interest. It is an account of a monstrous birth, which created much excitement when it became publicly known. It seems that one Mary Dyer, the wife of William Dyer, of Boston, was delivered of a monstrosity, October 17, 1637, and its birth concealed by Goodwife Hawkins, who officiated on the occasion. The mother was a milliner, and had always borne a good reputation. The child was still-born, and had been viewed by no other person than the midwife and Anne Hutchinson, the enthusiast. Another woman had had a glimpse of the teratical object, but was unable to keep the secret, as the other two had done. In this way the matter leaked out. When Mrs. Hutchinson was about to leave the colony some time afterward, she was questioned in regard to the affair, and then told everything. She said by way of excuse that she had been advised by Mr. Cotton, the minister, to take this course; and subsequently Mr. Cotton himself justified it to the Governor, partly on the ground that it was an admonition from Heaven to that particular family, and the world at large was

not supposed to be concerned in the matter. The midwife's report of the case to Governor Winthrop was as follows:—

"It was a woman child, still-born, about two months before the just time, having life a few hours before; it came hiplings till she turned it; it was of ordinary bigness; it had a face, but no head, and the ears stood upon the shoulders, and were like an ape's; it had no forehead, but over the eyes four horns, hard and sharp; two of them were above one inch long, the other two shorter; the eyes standing out, and the mouth also; the nose hooked upward; all over the breast and back full of sharp pricks and scales, like a thornback; the navel and all the belly, with the distinction of the sex, were where the back should be, and the back and hips before, where the belly should have been; behind, between the shoulders, it had two mouths, and in each of them a piece of red flesh sticking out; it had arms and legs as other children; but, instead of toes, it had on each foot three claws, like a young fowl, with sharp talons."

The stories were so conflicting, and the excitement ran so high in the matter, that the Governor, with the advice of some of the magistrates and elders of the town, ordered the body to be taken up, six months after its burial, when "most of those things were to be seen, as the horns and claws, the scales, etc." It is also recorded that when the child "died in the mother's body (which was about two hours before the birth), the bed whereon the mother lay did shake." This furnished all the testimony needed at that time to show that the whole affair was supernatural.

Poor Mary Dyer was subsequently hanged on Boston Common, June 1, 1660, a victim to the persecution of the Quakers.

It is not a little singular that Mrs. Hutchinson herself, a short time afterward, was also the subject of a medical and clerical inquiry. Her theological

heresy had taken a uterine form of expression, according to the belief of those days, though now it would be considered a case of hydatids. She was then living in Rhode Island, and—I again quote from Winthrop's History—

"After her time was fulfilled, that she expected deliverance of a child, was delivered of a monstrous birth, which, being diversely related in the country (and, in the open assembly at Boston, upon a lecture day, declared by Mr. Cotton to be twenty-seven several lumps of man's seed, without any alteration, or mixture of anything from the woman, and thereupon gathered, that it might signify her error in denying inherent righteousness, but that all was Christ in us, and nothing of ours in our faith, love, etc.) hereupon the governour wrote to Mr. Clarke, a physician and a preacher to those of the island, to know the certainty thereof, who returned him this answer: Mrs. Hutchinson, six weeks before her delivery, perceived her body to be greatly distempered, and her spirits failing, and in that regard doubtful of life, she sent to me, etc., and not long after (in immoderato fluore uterino) it was brought to light, and I was called to see it, where I beheld, first unwashed (and afterwards in warm water,) several lumps, every one of them greatly confused, and if you consider each of them according to the representation of the whole, they were altogether without form." . . . . "The small globes I likewise opened, and perceived the matter of them (setting aside the membrane in which it was involved,) to be partly wind and partly water. Of these several lumps there were about twenty-six, according to the relation of those, who more narrowly searched into the number of them. I took notice of six or seven of some bigness; the rest were small; but all as I have declared, except one or two, which differed much from the rest both in matter and form; and the whole was like the [blank] of the liver, being simular and every where like itself. When I had opened it, the matter seemed to be blood congealed. The governour, not satisfied with this relation, spake after with the said Mr. Clarke, who thus cleared all the doubts: The lumps were twenty-six or twenty-seven, distinct and not joined together; there came no secundine after them; six of them were as great as his fist, and one as great as two fists; the rest each less than other, and the smallest about the bigness of the top of his thumb. The globes were round things, included in the lumps, about the bigness of a small Indian bean, and like the pearl in a man's eye."—(i. 326–328.)

These extracts will serve to show some of the

phases of popular belief in regard to medicine as well as theology, which existed two hundred and fifty years ago. They help us catch the coloring of that period; and no picture of the times is complete without it. It would be impossible for us to reach the same conclusions, because we reason from different premises. There is a kind of moral parallax as well as a physical one; and we should bear in mind the apparent displacement of an object as seen from different points of time as well as of position. The angle of metaphysical vision to-day subtends a much larger arc than it did two or three centuries ago.

Among those who came over in Winthrop's fleet was Richard Palgrave, a physician, from Stepney, London. He settled in Charlestown, though neither himself nor his wife was ever connected with the church in that town. Their ecclesiastical relations were always with Boston, where those of their children who were born in this country were baptized. He lived about twenty years, after coming to New England.

Another passenger in the same fleet was William Gager, one of the deacons of the Charlestown Church, whom Governor Dudley styles "a right godly man, skilful chyrurgeon," but who unfortunately died soon after his arrival.

Another among the early settlers of Massachusetts who practised medicine, was Giles Firmin, Jr., who came to this country in the year 1632. His father—"a godly man, an apothecary of Sudbury in England," according to Winthrop—arrived

here about the same time; and in some accounts the two have been confounded from the similarity of their names. It is very likely that Giles, senior, was a medical practitioner. The son did not long remain in Boston, but soon returned to England; coming again, however, to these shores a few years subsequently. He had been educated at the University of Cambridge, and was learned in medicine. He is the first man known to have taught in New England this branch of science, and he seems to have left a professional imprint on the minds of his students. He soon removed to Ipswich, where he was widely known as a successful physician. His practice does not appear to have been a lucrative one, for he writes to Winthrop some years afterward,—"I am strongly sett upon to studye divinitie, my studies else must be lost: for physick is but a meene helpe."[1] Subsequently he carried this plan into execution, and studied theology, after which he returned to England, where he was ordained and settled as a rector. Nevertheless, he continued to practise his early profession.

The apostle Eliot, under under date of September 24, 1647, writes to Mr. Shepard, the minister of Cambridge, and expresses the desire that—

"Our young Students in Physick may be trained up better than yet they bee, who have onely theoreticall knowledge, and are forced to fall to practise before ever they saw an Anatomy made, or duely trained up in making experiments, for we never had but one Anatomy in the Countrey, which Mr. *Giles Firman* (now in England) did make and read upon very well, but no more of that now."[2]

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[1] Hutchinson's Collection of Original Papers, &c., page 109.
[2] Massachusetts Historical Collections, third series, iv. 57.

An anatomy is the old name for a skeleton, and Mr. Firmin may be considered, in point of time, the first medical lecturer in the country. His instruction must have been crude, and comprised little more than informal talks about the dry bones before him; but even this might be a great help to the learners. At any rate it seems to have excited an interest in the subject, for the recommendation is made, at the session of the General Court beginning October 27, 1647,—a few weeks later than the date of Eliot's letter,—that "we conceive it very necessary y^{t} such as studies phisick, or chirurgery may have liberty to reade anotomy & to anotomize once in foure yeares some malefacto^{r} in case there be such as the Courte shall alow of."[1]

The apostle Eliot himself was skilled in medicine, and he tried to teach the Indians some general principles of the study as well as a knowledge of the human body. He was desirous that they should be instructed in the rules and precepts of the art, so that they might give up their "powwows" and rely on prayer in the treatment of the sick.

Charles Chauncy, that stern puritan, President of Harvard College, and also Leonard Hoar, who succeeded him in the presidency, were regular graduates of medicine at Cambridge in England. Chauncy left six sons, all of whom were educated at Harvard College and became preachers. They had, says Cotton Mather, "an eminent Skill in *Physick* added unto their other Accomplishments;

[1] General Court Records, ii. 175.

which like *him* [their father], they used for the Good of many; as, indeed, it is well known, that until Two Hundred Years ago, *Physick* in *England*, was no Profession distinct from Divinity."[1] John Rogers, the fifth president of the College, was also a practitioner of medicine. Hoar was the first president who was a graduate of the institution, but Rogers was the earliest graduate who became its president.

Michael Wigglesworth was an early minister and physician of considerable note in the colony. A native of England, he graduated at Harvard College, in the class of 1651. For a short time he was a tutor and professor in the college; though subsequently he was ordained over the church at Malden, where he remained until his death, which occurred June 10, 1705. He was the author of "The Day of Doom," a poem which passed through nine editions in this country, and two in England. He had a large medical practice, and was accounted a skilful physician.

Elisha Cooke was a prominent physician as well as a politician of this period. He was born in Boston, September 16, 1637, and graduated at Harvard College in the class of 1657, being one of the first natives of the town that studied medicine. While esteemed as a physician, his reputation is based more on his labors in connection with the body politic than the body physical. He died October 31, 1715, having filled many public positions of trust and honor.

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[1] Magnalia, Book iii., Chap. xxiii., 140.

John Dunton, who came to New England in the spring of 1686, wrote home some interesting letters which were published. They contain considerable gossip about men and things in the colony at that time, and refer in particular to two Boston physicians. Dr. Thomas Oakes—a brother of President Oakes, and a graduate of Harvard College—Dunton calls "the greatest Æsculapius of the Countrey," and says that—

"His wise and safe Prescriptions have expell'd more Diseases and rescu'd Languishing Patients from the Jaws of Death, than Mountebanks and Quack-Salvers have sent to those dark Regions: And on that score, Death has declar'd himself his Mortal Enemy: Whereas Death claims a Relation to those Pretenders to Physick, as being both of one Occupation, viz.: that of Killing Men."—("The Publications of the Prince Society," iv. 93.)

In speaking of Dr. Benjamin Bullivant, afterward Governor Andros's Attorney-General, he writes that—

"His Skill in Pharmacy was such, as rendered him the most compleat Pharmacopean, not only in all Boston, but in all New-England; and is beside, as much a Gentleman as any one in all the Countrey." . . . "He is as intimate with Gallen and Hypocrates (at least ways with their works,) as ever I have been with you, Even in our most Familiar Converse. And is so conversant with the great variety of Nature, that not a Drug or Simple can Escape him; whose Power and Vertues are known so well to him, he needs not Practise new Experiments upon his Patients, except it be in desperate Cases, when Death must be expell'd by Death. This also is Praise-worthy in him, That to the Poor he always prescribes cheap, but wholesome Medicines, not curing them of a Consumption in their Bodies, and sending it into their Purses; nor yet directing them to the East-Indies to look for Drugs, when they may have far better out of their Gardens."—("The Publications of the Prince Society," iv. 94–96.)

Harvard College was founded in the year 1638; and during the period from this time till 1750, there had been but nine of its graduates who had

ever received a medical degree. Of this number, two had taken it at Padua, in Italy; one each at Cambridge, Oxford, Aberdeen, and Leyden; and three others had received it probably in England, though the place is not mentioned. The degree given at Oxford was a Baccalaureate of Medicine. Between the classes of 1737 and 1750 there were five graduates who many years afterward received from the College the degree of M.D., *pro honoris causâ*. They were Dr. Edward Augustus Holyoke and Dr. Cotton Tufts, both former presidents of this Society; Dr. John Sprague, of Dedham; Dr. Thomas Bulfinch, of Boston, and Dr. Oliver Prescott, of Groton.

The opportunities for successful imposition in the treatment of disease were unusually favorable in the early days of the colony; and the quacks were not slow to avail themselves of the chances. During the first winter at Boston, the Court of Assistants fined Nicholas Knopp five pounds—

"for takeing vpon him to cure the scurvey by a water of noe worth nor value, which he solde att a very deare rate, to bee imprisoned till hee pay his ffine or giue securytie for it, or els to be whipped & shalbe lyable to any mans accõn of whome he hath receaued money for the s^{d} water."—(General Court Records, i. 67.)

The record, however, does not state which dose he took in the way of punishment, but as three pounds of the fine were subsequently remitted, it is fair to infer that he was not whipped. If we now had as wise legislation in regard to medicine, there would be less quackery in the community. By a law passed a few years later, regulating the

precedence of passengers in ferry-boats, preference was given to public personages, and to "Physitians, Chirurgeons, and Midwives."

The colonial authorities appear to have taken steps, at an early day, to guard against the introduction of infectious and contagious diseases from foreign ports. An order was passed by the General Court, at the session beginning in March, 1647–48, which established a strict quarantine over all vessels coming from the West India Islands. It prohibited the landing of persons or goods from such vessels, until the Council saw fit to decree otherwise. At that time "y^{e} plague or like in[fectious] disease,"—perhaps yellow fever,—was raging in some of these islands, and this fact was the cause of the order. During the session beginning May, 1649,—one year afterward,—it is recorded that—

"The Courte doth thinke meete, that the order, concerning the stoping of West India ships at the Castle should hereby be repealed seeing it hath pleased God to stay the sicknes there."—(General Court Records, ii. 238.)

No further sanitary regulations are recorded until October 11, 1665, when a warrant was issued by the General Court, ordering all vessels coming from England to be placed in quarantine. This order was due to the prevalence of the "plague" in London at that time; but it was repealed just two years afterward, owing to the disappearance of the disease. The quarantine grounds then were near the Castle, afterward called Castle William, but now known as Fort Independence.

These two orders appear to have been made to meet special emergencies; but they comprise the whole legislation of the seventeenth century, so far as it relates to quarantine in Massachusetts.

It is said that the first appearance of yellow fever, in what is now the United States, occurred during the summer of 1693, in Boston, where it had been brought from Barbadoes. A fleet, under the command of Sir Francis Wheeler, arrived in the early summer of that year, after an unsuccessful attempt on the island of Martinico. Chief Justice Sewall alludes to this fleet in his Diary (Massachusetts Historical Collections, fifth series, V. 379, 380), under date of June 13, when he says that "severall of the Frigotts come up above Long Island;" though he does not mention whence they came. It is probable that they had arrived within a few days. A short time afterward he records that—

"Last night Tim° Wadsworth's man dies of the Fever of the Fleet, as is supposed, he having been on board and in the Hold of some ship. Town is much startled at it."

Still later, under date of July 24, he writes:—

"Capt. Turell is buried. Mr. Joseph Dassett was buried yesterday, being much lamented. Jn° Shove and ——— Saxton died before, all of the Fleet-Fever, as is supposed; besides others. The Town is much startled. Capt. Byfield speaks of removing his wife and daughters to Bristow. One of the Fleet-Women dies this day, July 24, 1693, at David Johnson's, over against the Town-house.

"July 25. Three Carpenters die.

"July 26. Dr. Pemberton dies. Persons are generally under much consternation, which Mr. Willard takes notice of in his Prayer."

At irregular intervals after this time, quarantine laws were passed or modified to meet the needs of

the public. A necessary adjunct to such legislation was a hospital; and as early as the summer of 1716, a committee of the General Court was appointed to select a location for such a building. In due time they reported on two sites, Spectacle Island and Squantum Neck; but as the owner of the Island would not sell it at a fair price, they recommended Squantum as the proper place. A strong protest to this proposition, however, came from the towns of Dorchester, Braintree, and Milton, and that project was abandoned. But during the next year a quarantine hospital was built on Spectacle Island, which was used for infectious diseases until the year 1737, when the establishment was transferred to Rainsford Island, where it remained until the year 1849. It was then established on Deer Island, where it was kept until April, 1867, when it was removed to Gallop's Island, at which place the quarantine buildings for the port of Boston are now situated.

In the year 1649, a law was passed which is commendatory to the wisdom of that time. It regulated, within certain limits, the practice of medicine and surgery, and required the practitioner to act according to the most approved precepts of the art in each domain. It was a salutary enactment, as far as it went, but it afforded only a slight protection against the deficiencies of the profession. It was like leaning on a broken reed, however, since it made no provision for educating medical men and established no test of their qualifications. The attempt, however, is worthy of notice as being

the first one, on the part of the colonial authorities, to restrain the quackery of the day. The tendency of the law was to confine the profession to skilled persons; and it must be granted that the whole medical legislation of that period was in the interest of sound learning, as understood at the time. The present generation will do well if, tried by the standard two centuries hence, they display as much common sense in such matters as was shown by the founders of the colony.

The law is as follows:—

Chirurgeons, Midwives, Physitians.

Forasmuch as the Law of God allowes no man to impaire the Life, or Limbs of any Person, but in a judicial way;

It is therefore Ordered, That no person or persons whatsoever, imployed at any time about the bodyes of men, women, or children, for preservation of life or health; as Chirurgions, Midwives, Physitians or others, presume to exercise, or put forth any act contrary to the known approved Rules of Art, in each Mystery and occupation, nor exercise any force, violence or cruelty upon, or towards the body of any, whether young or old, (no not in the most difficult and desperate cases) without the advice and consent of such as are skillfull in the same Art, (if such may be had) or at least of some of the wisest and gravest then present, and consent of the patient or patients if they be *mentis compotes,* much less contrary to such advice and consent; upon such severe punishment as the nature of the fact may deserve, which Law nevertheless, is not intended to discourage any from all lawfull use of their skill, but rather to incourage and direct them in the right use thereof, and inhibit and restreine the presumptuous arrogancy of such as through presidence of their own skill, or any other sinister respects, dare boldly attempt to exercise any violence upon or towards the bodyes of young or old, one or other, to the prejudice or hazard of the life or limbe of man, woman or child.—("The General Laws and Liberties of the Massachusetts Colony," Cambridge, 1672, page 28.)

The following petition in manuscript is found, without signature or date, among the Massachu-

setts Archives at the State House (IX. 21). In the arrangement of the papers it has been assigned to the year 1653, and it belongs doubtless to that period. It probably had some connection with the discussion growing out of the condition of affairs which culminated in the law just mentioned:—

To the Honor^ed^ Court.

Wheras there be many Chirurgions that came over in the Ships into this Bay, & here practise both Physick & Chirurgery to the hazarding of the lives & limbes of some, & the detriment of many, being vnskilfull: in those Arts. May it please this Honoured Court to take it into Consideration whether such ought not to be restrained, & that first they may be exercised by the skilfull & authorised Phisitians & Chirurgions in this towne, & then being found skilfull, & approved by them may by some Magistrates be licensed to practise the time they are resident here, but if any one shall presume on shore to practise w^th^out liberty granted, that some fine may be imposed vpon him for every such default according to you^r^ discretion.

With a low standard of professional education even among the physicians, it was not to be expected that there would be much general intelligence on medical matters in the community at large. A stream never rises higher than its source. The ignorant are proverbially credulous and easily deceived. The following extract will show the strain to which weak credulity may be put. It is taken from "The Boston Weekly News-Letter," January 14, 1717, which was the first newspaper, and at that time the only one, published on this continent. Perhaps some cynic in this audience may say that for pure and unadulterated absurdity it can be capped by almost any quack advertising sheet at the present time, and I am not ready to dispute it.

Boston, On the Lords day Morning the sixth Currant, a strange thing fell out here, One Thomas Smith a Sawyer about four Month ago, bought a Lusty Tall new negro, fit for his Employ, who after complain'd of something within him that made a Noise Chip, Chip, Chip; his Master sent for a Doctor, one Sebastian Henry Swetzer a German, who told him he had Worms, whereupon he gave him some Physick on Wednesday: from Thursday till the Lords Day he gave him some Powders, which on the Lords Day had that effect as to cause him to vomit up a long Worm, that measur'd a hundred and twenty eight Foot, which the negro took to be his Guts; it was almost as big as ones little Finger, its Head was like a Snakes, and would receive a Mans little Finger into its Mouth, it was of a whitish Colour all full of Joynts, its tail was long and hard, and with a Microscope it seem'd to be hairy; the Negro before voiding the Worm had an extraordinary Stomach.

During the early days of the Colony sometimes the booksellers and printers kept a small assortment of popular remedies for common ailments, as well as of medical books. In an advertisement on the last leaf of "THE MOURNERS CORDIAL *Against Excessive* SORROW," a duodecimo volume "Very Suitable to be given at Funerals," written by "*Samuel Willard*, Teacher of a Church in BOSTON," and published in the year 1691, it is announced that—

That Excellent *Antidote* against all Gripings called *Aqua anti torminalis*, which if taken it not only cures the Gripings of Guts, & Wind Cholick, but preventeth that woful Distemper the *Dry Belly Ach.* Sold By *Benjamin Harris.* Price 3*s.* the Half Pint Bottle.

Harris was one of the printers of the little book; and he advertises in the same page "An Ingenious Piece which turns *George Keith* inside outwards," by Cotton Mather. The price of it, in boards, was one shilling,—the cost of about two ounces of the medicine. At the sale of a part of the Brinley

library in New York, two years ago, a copy of the same work, under the title of "Little Flocks Guarded against Grievous Wolves," fetched twenty-eight dollars.

The publisher of "The Boston Evening Post," in his issue of March 21, 1737, advertises "The Poor Man's Family-Book, Or, A new Edition of *Culpeper's* London Dispensatory" as a work "Very Useful for Families, especially in the Country, where learned and skilful Physicians are not very easily met with." The merits of the edition are given with some prominence. The book purports to contain:—

1. *Three hundred useful Additions.*
2. *All the Notes that were in the Margent are brought into the Book between two such Crotchets as these* [ ].
3. *The Virtues, Qualities and Properties of every* Simple.
4. *The Virtues and Use of the* Compounds.
5. *Cautions in giving all Medicines that are dangerous.*
6. *All the Medicines that were in the* Old Latin Dispensatory, *and are left out in the* New Latin *one, are Printed in this Impression in English, with their Virtues.*
7. *A* KEY *to* Galen *and* Hippocrates, *their* Method *of* Physick, *containing Thirty three Chapters.*
8. *In this Impression the* Latin *name of every one of the Compounds is Printed, and in what Page of the new Folio* Latin *Book they are to be found.*

The following advertisement is taken from "The New England Courant," of December 17, 1722. The substance of it is much like the quack notices of the present time, though the advertiser is more considerate to the poor than we are now apt to see.

For the Good of the Publick, a certain Person hath a secret Medicine which cures the Gravil and Cholick immediately, and Dry Belly Ach in a little Time; and restores the Use of the Limbs

again. (tho' of never so long Continuance,) and is excellent for the Gout. Enquire of Mr. *Samuel Gerrish,* Bookseller, near the Brick Meeting House, over against the Town-House in Boston. *N. B.* The Poor who are not able to pay for it, may have it *gratis.*

The early practitioners of medicine had a fondness for venesection, and the lancet was in constant requisition. Good Deacon and Doctor Fuller, who lived at Plymouth, writes to Governor Bradford, under date of June 28, 1630, "I have been at Matapan [Dorchester], at the request of Mr. Warham, and let some twenty of these people blood; I had conference with them, till I was weary." This last expression may have been also his guide in the medical treatment; that is, he continued to bleed until he got tired. Such heroic practice was of common occurrence, and excited no remark. The ministers too were expert in phlebotomy, and they were wont to bleed and pray, in all severe cases. Then there were the barber-surgeons who wielded with equal facility the razor and the lancet, as well as used the jaw-breaking key on the aching teeth of their unfortunate friends. The pathetic story of William Dinely has often been told. He was a barber-surgeon who perished during a severe snow-storm, December 15, 1638, between Boston and Roxbury, whither he was going to pull a tooth. It was many days before his body was found, and his poor widow suffered great anguish. Her grief hastened the coming event which she was anticipating with so much joy, and she named the baby *Fathergone* Dinely.

Formerly in England the patient, while undergoing venesection, was wont to grasp a pole in order to make the blood flow more freely, and as the pole was liable to be stained, it was painted red. When it was not in use, the barber would hang it up on the outside of his door, with white linen swathing-bands twisted round it. The red and white pole of the present day, so conspicuous in front of barbers' shops, has resulted by evolution from this custom. It is worthy of note that, in this country since the Great Rebellion, a blue stripe is frequently added, making the patriotic combination of the "Red, White, and Blue."

The character of the diseases that prevailed in the early days of the colony was substantially the same, though not entirely, as nowadays. It is known that intermittent fever often occurred in certain sections of Massachusetts, where now it is never seen.

The Reverend Mr. Danforth, of Roxbury, during the winter of 1660, makes the following entry in the Church Records: "The Lord was pleased to visite vs, with epidemical colds, coughs, agues, & fevers."—(Page 199.) Under date of September 8, 1671, he says furthermore: "This summer many were visited with y^{e} ague & fever." And again the next year, September 11, he records: "Agues & fevers prevailed much among vs about y^{e} Bay, & fluxes & vomiting at Boston." These extracts are taken from the printed edition, previously noticed.

John Josselyn, who has been already mentioned in these pages, wrote "An Account of Two Voy-

ages to New-England," which was published at London in the year 1674. He speaks of arriving at Boston, September 1, 1671, and finding "the Inhabitants exceedingly afflicted with griping of the guts, and Feaver, and Ague, and bloody Flux."—(Page 213.) In another place he says that "the Diseases that the *English* are afflicted with, are the same that they have in *England*, with some proper to *New-England*, griping of the belly (accompanied with Feaver and Ague) which turns to the bloudy-flux, a common disease in the Countrey."—(Page 183.) Joshua Scottow, in his "Old Men's Tears," published in 1691, with a nomenclature more expressive than elegant speaks of the "burning and spotted Fevers, shaking Agues, dry Belly Achs, plague of the Guts, and divers other sore distempers" (page 15), which have afflicted the plantation. The plain Anglo-Saxon word, used as a synonym of the intestinal canal, has gone down in the language, and become indelicate to this generation.

The well ventilated houses of that period, while inviting some disorders, kept off others, and their occupants somehow or other managed to live to a good old age. The men had not as yet acquired the habit of using those rasping liquors, so conducive to renal affections, but contented themselves with honest rum and pure wines, to say nothing of the product of their home-brewing. Small-pox was to them a terror, which has since been deprived of much of its dread. In short, the modifications of disease, as now seen, are due

principally to the different circumstances and habits of life prevailing in the community. The settlers in the main led quiet and unexciting lives; and there was little tendency to those mental disorders which are so characteristic of an active business community. The delicate relations existing between the mind and the body were rarely disturbed by outside influences; and when the manifestation of such a disturbance took place, it was considered a visitation from heaven or the other place, and the treatment was to be found in prayer. If the intellect was beclouded by a haze or excited by illusions, the explanation was sought anywhere but in the right direction. It was not known that there are physical causes for many metaphysical facts.

Twenty years before the outbreak of witchcraft at Salem, a young maiden of Groton was seized with a variety of nervous disorders, constituting a well-marked case of hysteria, which created a great deal of excitement in the town. At the outset it baffled the skill of the neighbors, who were inclined to think that she was possessed of the devil; and the minister was called in, who talked with her and prayed with her, but all to no purpose. A physician was sent for next, "who judged a maine $\mathfrak{p}^{t}$ of her distemper to be naturall, arising from the foulnesse of her stomacke & corruptnesse of her blood, occasioning fumes in her braine, & strange fansyes." Finally the poor girl confessed that she had made a covenant with the Devil; and her actions were so strange that

the doctor was nonplussed and threw up the case. He then "consented that the distemper was Diabolicall, refused further to administer, advised to extraordinary fasting." A council of ministers was convened to consider the matter, but they did not seem to help her. The poor girl afterward declared that she had signed a league with his black majesty, in her own blood. It is not recorded what became of the girl; but if she had been attacked twenty years later, she would have been tried and hanged as a witch. A long account of the case is given in the Massachusetts Historical Collections, fourth series, VIII. 555.

Much of the mist in the medical atmosphere of the colony had been blown from the shores of the mother-country. The credulity of the ignorant was remarkable. In England the touch of the royal monarch,

"Such sanctity hath Heaven given his hand,"

was considered a specific for the King's evil or scrofula. The custom began as early as the reign of Edward the Confessor, and was kept up until that of George I., when it was dropped. At one time a form of prayer used in touching for the evil was inserted in the Book of Common Prayer. It is not strange, therefore, that some lingering faith in the absurd custom should crop out in New England. A petition is on file, among the Massachusetts Archives (CXXVIII. 270), from a poor man asking the Governor to grant him a *brief*, which is another name for a license to collect money for a specified purpose. It is as follows:—

To his Excellencys S^{r} Edmund Andrews Cap^{t} Gen^{rll} of all his Majesties fforses of New England and Governour of all y^{e} said Territoryes

The humble petition of William Hutchins Inhabitant In y^{e} province of New Hampshrie In New England

Humble Sheweth That y^{e} Lord hath been pleased through his Righteousn [ess] to visit and correct yo^{r} poore Supplycant about y^{e} space [or] terme of Six yeares with vntollerable soors all over his Bo[dy] Not withstanding hee hath made vse y^{e} Most Learned & Scilfulest phisitians that hee could heare off; but found . . . [rem]edy as to his Cure; And Sundry persons Judgment is, that the Lord hath apointed to Salve yo^{r} much aflected Supplycant non but our Gracious Leight the King, Therefore hee and many others Humbly Concaves that It is y^{e} sors th[at] is Commonly called y^{e} Kings Evell, And though his aflection bee Exceeding Greifeous by his Ilnesse of Body hee would redresse hims selue to o^{r} Soveraige Lord y^{e} King for Remedy not Doubting but God hath appointed him for much good to all his Subjects, and in particular to yo^{r} poore aflected petition^{r} but am withhoulden from his goeing to his Majestie, by his Exceeding pourety; for one aflection Seldome comes without Its secound viz^{t} . . .

Therefore yo^{r} poore aflected petition^{r} Humbly Beeseeches yo^{r} Excellency soe to Consider yo^{r} poore Deploreable and much aflected petition^{rs} Condition; And y^{t} yo^{r} Excellency would bee please to Grannt him A Breife; to see what Christian people wilbe please freely to Contribute towards yo^{r} petition^{r} transportation And In so Doeing It will oblige him pray for yo^{r} Excellency health & happynesse and Subscrieb himseffe Yo^{r} obliged and

Dutyfull Serv^{t}

June 19, 1688 WILLIAM HUTCHINS.

I introduce the following papers, found among the Massachusetts Archives at the State House, in order to show, in some particulars, the position of medical matters during the early history of the colony. They throw certain side-lights on simple subjects, and help to illustrate the daily affairs of colonial life.

The first is a petition presented to the General Court, in the year 1645. It was written by Dr. Thomas Oliver, a practising physician of Boston, who was a most useful citizen, active both in town

and church matters. In John Hull's Diary, published in the "Archæologia Americana" (III. 182), it is recorded that "The 1st of the 11th month [January 1, 1657-8], Mr. Thomas Oliver, one of the ruling elders of this church, died, being ninety years old,—a man by his outward profession a chirurgeon."

May it please this honored Court to Consider of y^e^ Paines and Cost: I haue bin at in dressing. Joseph White of y^e^ disease called y^e^ kings evill. w^h^ hath bine vnder my hand vpon . 20 . months both for sergery . and phisick. y^e^ disease being in my Judgment hard to be Cured w^t^ out amputation (w^c^ y^e^ boy would never Consent vnto) yet I know not what y^e^ lord will do in blessing y^e^ meanes vsed. for he is in good ease for y^e^ pressent and is able to worke for his liuing and begine to tread upon his foote

Y^rs^ in all dewty to be cō THO: OLIVER

I would for the time past if it. please you . demand for my Pains and Cost 12 – 00 – 00

The magistrates judge it reasonable that the Petitioner demand should be granted & desire the concurrence of the Deputyes herein

JO: WINTHROP: D: GO:

(Massachusetts Archives, c. 10.)

There are other petitions of a similar character, and bills for medical attendance made out against the government, which are on file at the State House. Sometimes such papers were acted on favorably by the public officers, and sometimes not; though I am unable to find out by what authority such accounts were paid, except on the broad ground of Christian charity. As early as the year 1641, the General Court ordered that it would "grant no Benevolence, except in forreign occasions, and when there is Money in the Treasury sufficient, and our debts first satisfied."[1]

[1] The General Laws and Liberties of the Massachusetts Colony, page 9.

Another paper of the same import as Oliver's is that of John Endicott, Jr., who gives the items of his bill; and with it are other documents. They are as follows:—

Know all men by theas preasence that I John Clarke beinge uery sicke and haue bin with Mr Talor but finding no good, by the Gouerners order was sent to Mr Endecott and through the goodnes of god am recouered out of that disease

As witnes my hand: Jon Clarke

the 28 10 67

a poor man one John Clarke being weak and sike by reason of a scuruy and a dropsy, by the Consent of the Gouerner came to me and through the goodnes of god by the use of such means as god ht put in to my heart he is finly recouered out of his diseas

Jo. Endecott Cirurgion

M Endecott after yt Mr Taler came to me and gaue him over, did undertake to helpe him, & hath beene at Labor and cost about it and though the disease be treated yet the man wanting good refreshinge is but weake. I desire that Mr Endecott may be . . .

Ri. Bellingham G.

Debiter to John Endicott for the Cure of J[ohn Clarke,]

By Conserue de Asinthium	01	00	.
By a Vomit and atendans	00	05	00
By a Cordiall Electuary	00	10	00
By Conserue de Cochlearia	00	10	00
By visets and seuerall other medisense . .	01	00	.
	03	05	.

Taken out of Mr John Endicotts booke written by him selfe

The Deputyes Judge meete that this bill of 3lb 5s 0. be payd to the Successor of Mr John Endecott by the Comittee appoynted to take care of those poore people. if they haue any Stocke in their hands. or otherwise that it be payd by the Country Treasurer, with refferrence to the Consent of or Honed magists hereto

18: 8th 1868 William Torrey Cleric

not Consented too by ye Magistrats

p curiam John Pynchon

but on further. Consideration. Judge meet to refeer to the Treasurer who on Conferenc with some phisitian may allow him what he sees Just. their brethren the deputy hereto. Consenting:

Edw. Rawson Secret

Consented to by the Deputyes William Torrey Cleric

(Massachusetts Archives, c. 119–122.)

The following bill gives a fair idea of the fees for visits and the cost of medicines two hundred years ago, when physicians furnished their own drugs. Richard Skinner was a mariner, and it seems that a suit was brought against him, by Dr. Bassett, for medical attendance on his late wife. It is not recorded what was the matter with her, but it is evident that one of her symptoms was constipation.

Novemb 23d 1691 — Mr Skinners Bill for medicamts Administred to his late Wife

	£	s	d
Imprs One great laxative potion to be taken in two doses .	0	4	0
24o one laxative Glister	0	2	0
more another Glister the same day	0	2	0
more one Great Cordial potion to take at seuall times	0	4	0
more another great potion to evacuate the humors as aboue	0	4	0
for diuers visitts to giue orders for her moderating herselfe in her dyet & other necessarie advice	0	6	0
Xemb 1st for one prize Nephritick pills	0	3	0
more for one Laxatiue ditto	0	3	0
for another potion more Composed	0	4	0
10 for a great sudorifiq & divretique potion against the obstruction of the reines	0	4	0
for more vissitts as aboue being in all aboue 40 Times	0	6	0
for Blooding her in the Arme	0	1	0

Error Excepted in Boston the 26th Aprill 1692

PETER BASSETT Doctor

April. 27. 1692 Dr. Peter Bassett made Oath to the Account above in County Court

Attest JOSEPH WEBB Cler

(Massachusetts Archives, xxxvii. 335.)

The following letter gives a list of medicines that were probably in common use at the time of its date. It was written by Dr. Humphrey Bradstreet,

just after the attack made by the Indians on York, Maine, when there was a large number of English killed, wounded, or carried away by the enemy. Dr. Bradstreet was a young physician, who afterward settled at Rowley, Massachusetts. Some of the names in the list, to say the least, are quaint. *Oleum catellorum* or puppies' oil, as a medicine, has gone out of use, but skunk's oil, rattlesnake's oil, and goose's oil, equally absurd, are all now to be found in the domestic pharmacopœia of many a New-England family. The Latinity of some of the words may be questioned, and it would be difficult to give their modern equivalents. A Latin suffix on an Anglo-Saxon root looks odd, but at the same time *Emplastrum Sticticum* is expressive. The letter contains an expression that has dropped out of the technical language of the profession. After speaking of medicines for "gunn shott wounds as for y^e^ first intentions," the writer goes on to say that he has some still left that "might be prop^r^ for y^e^ last Intentions but not for y^e^ first." Every physician is familiar with the term *first intention* as applied to the healing of wounds; but *last intention* is now never heard in such cases, though it is easy to see that it means healing by granulation.

Portsm^o^ January y^e^ 26: 169½

To the Hon^ble^ the Gouern^r^ and Councill of y^e^ Massatuset Collony in N England

May it please your honours I make bold with all humble submission to acquaint yo^r^ Honours that I am altogather out of Medicens for gunn shott wounds as for y^e^ first Intentions, and as wee haue had verry lamentable Incursions soe lately at York and killing and wounding & Carrying away, as your Hon^rs^ have already heard wee humbly hope, and how suddainly we may haue y^e^ like God only knows—w^ch^ in his Mercie preuent, and should

I be Comma[n]ded to march out with an armie Speedely Such things must be procured but Cannot be had here, and for those few medicens y^{t} were last sent Some of them might be prop^{r} for y^{e} last Intentions but not for y^{e} first, I haue made bold to Intimate vnderneath what medisens may be proper, humbly subscribe that I am Yo^{r} Hon^{rs} most Ready and humbly deuoted Seru^{t}.

HUMPHRY BRADSTREET.

Electuarium lenitivum	2 lb		
Pilulæ Rudii	½ lb		
Olium Catellorium	2 lb		
Olium hypericonis cum gum̃is	3 lb		
Olium hyperici Simp	2 lb		
Olium Terebinthani	2 lb	Emp^{l} diachylon Cum gum̃	1 lb
Olium Succini	1 ʒ	Emp. diacalcitheos	1 lb
Vnguent deminio Suie rubrum Camphra	1 lb	Sperrit of wine	1 lb
Vnḡ album 1 lb Vnḡ Nicotiana	1 lb	Gum Galbanum	4 ʒ
Vnḡ dialthea	1 lb	gum Elemni	5 ℥
Vnḡ diapumphologus	1 lb	gum Olibanum	4 ℥
Vnḡ populeon	1 lb	Gum. Vphorbium	3 ℥
Vn: anodinum	1 lb	Hordium galicum	6 lb
Vng: Egiptiacum	1 lb		
fflos vnguentorum	1 lb		
Emplaſt Sticticum	1 lb		
Empla diapallma	1 lb		

(Massachusetts Archives, xxxvii. 251.)

The women had their representatives in the profession in olden times as well as in our day, though they were not so strenuous in regard to their political rights as are their modern sisters. Anne Hutchinson was among the earliest of the sisterhood who practised medicine in Massachusetts. She came to Boston in the year 1636, and in "A Short Story," &c., by Thomas Welde (London, 1644), she is spoken of as a person "very helpfull in the times of child-birth, and other occasions of bodily infirmities, and well furnished

with means for those purposes."—(Page 31.) She was a noted character in colonial history, and by her heretical teachings and preachings soon threw the whole settlement into a flame, for which she was subsequently banished.

The town of Rehoboth, Massachusetts, on July 3, 1663, "voted and agreed that . . . . . [Mrs. Bridget Fuller, of Plymouth,] should be sent to, to see if she be willing to come and dwell amongst us, to attend on the office of a midwife, to answer the town's necessity, which at present is great."—(Bliss's History, page 53.)

Mrs. Fuller was the widow of Dr. Samuel Fuller, one of the Mayflower passengers, who has been mentioned before in these pages. This official invitation, however, was not accepted, as she continued to dwell in Plymouth, where she died some time during the next year. She had learned the art, doubtless, from her husband.

In the Roxbury Church Records, under date of November 27, 1665, Mr. Danforth, the minister, writes:—

"M^{rs} Sarah Alcock dyed, a vertuous woman, of vnstained life, very skilful in physick & chirurgery, exceeding active yea vnwearied in ministering to y^{e} necessities of others. Her workes praise her in y^{e} gates."—(Page 203.)

Her husband, like Mrs. Fuller's, was a physician; and he is mentioned in the next paragraph.

Two years later, March 27, 1667, it is recorded in the same book that "M^{r} John Alcock Physician, dyed. His liver was dryed up & become schirrous."—(Page 205.) Possibly an autopsy was made in this case.

The following quaint epitaph is found in the Phipps Street burying-ground at Charlestown, and would seem to indicate that occasionally in early times midwives were commissioned to practise their calling. Some mischievous person has skilfully changed the number on the stone slab, so that 3,000 reads 130,000:—

Here lyes Interred y^e^ Body of
M^rs^ Elizabeth Phillips, Wife
to M^r^ Eleazer Phillips. Who
was Born in Westminster, in Great
Brittain. & Commission'd by John
Lord. Bishop. of London, in y^e^ Year
1718 to y^e^ Office of a Midwife; & came
to this Country, in y^e^ Year 1719. & by
y^e^ Blessing of God, has brought into
this world above 3000 Children:
Died May 6^th^ 1761. Aged 76 Years.

In the year 1648 Margaret Jones, of Charlestown, was found guilty of witchcraft; and she was the first person hanged in New England for that offence. She had been a practising physician, and her medicines, according to the best testimony of that period, had "extraordinary violent effects." It was said that "she would use to tell such as would not make use of her physic, that they would never be healed, and accordingly their diseases and hurts continued, with relapse against the ordinary course, and beyond the apprehension of all physicians and surgeons."

In this way she used her powers as a witch to acquire practice and increase her gains; according to the judgment of her contemporaries, she suffered a just penalty of her sins. I wonder much

whether there is any similar travesty of intelligence in our day. The pretensions of the healing mediums and other charlatans suggest an unsatisfactory answer.

Subsequent to this period inquests were held, and *post mortem* examinations made, at various times in Massachusetts during the seventeenth century, and a certain amount of anatomical knowledge was thus picked up. The relative position of the internal organs and their general appearance were learned in this way by the persons who witnessed the operations. The advantages that one may derive from his opportunities depends upon himself alone, and at this late day it cannot be estimated how much the profession gained from these limited sources. No one can tell how far thought in the early dawn of colonial medicine was stimulated by such examinations.

The result of an inquest held June 1, 1676, on the body of Jacob Goodale, is recorded in the Essex County Court Papers (Volume XXX. leaf 46), at Salem, in the complaint against Giles Corey. The jury found—

"seueral wrongs he hath had on his body. as vpon his left arme and vpon his right thigh, a great bruise. w^{ch} is very much swold. and vpon the reynes of his backe. in colour. differinge from the other parts of his body we caused an incision to be made much bruised and Run wth a gelly and the skin broke vpon the outside of each buttocke.

Sworne to 30: 4mo: 76"

This is the case which Cotton Mather mentions in "The Wonders of the Invisible World."—(Boston, 1693.) It is there stated—

"That abont Seventeen Years ago, *Giles Cory* kept a man in his House, that was almost a Natural Fool; which Man Dy'd suddenly. A Jury was Impannel'd upon him, among whom was Dr. *Zorobbabel Endicot;* who found the man bruised to Death, and having clodders of Blood about his Heart."—(Page 146.)

In an inquest held May 2, 1678, and recorded in the Essex County Court Papers (Volume XXX. leaf 46), at Salem, the return is made by the "Chirurgeon" that he—

"searcht the Body of one called Edward Bodye: I made Incision upon the parte of his Body which was most suspitious which was upon the Temporall Muscle: I layd the Bones Beare: wee could nott find any fracture in the least nether was the flesh in any wise corupted or putrified."

An account of an autopsy is given in the Roxbury Church Records. It is found in the printed copy, under date of August 20, 1674, and is as follows:—

"John Bridge, died of y^{e} Winde Collick and was buried the day following. His body was opened. he had sundry small holes in his stomak & bowels, & one hole in his stomak y^{t} a man's fist might passe through, w^{c}h is thought was rent wth vyolent straining to vomit, the night before he dyed, for the watchers observed y^{t} something seemed to rend wthin him, and he saide of it I am a dead man."—(Page 181.)

This is one of the earliest recorded instances of a *post mortem* examination, to be found in New England.

Josselyn mentions an autopsy which occurred before this one, but he gives no definite facts with regard to it. In "An Account of Two Voyages to New-England" (London, 1674), he speaks of—

"a young maid that was troubled with a sore pricking at her heart, still as she lean'd her body or stept down with her foot to the one side or the other; this maid during her distemper voided

worms of the length of a finger all hairy with black heads; it so fell out that the maid dyed; her friends desirous to discover the cause of the distemper of her heart, had her open'd, and found two crooked bones growing upon the top of the heart, which as she bowed her body to the right or left side would job their points into one and the same place, till they had worn a hole quite through."—(Page 186.)

Chief Justice Sewall in his Diary, September 22, 1676, speaks of an Indian who had been hanged the day before, and dissected on the date of the entry in the journal. The examination was made in the presence of several persons, when one of them—probably Hooper by name—"taking the ♡ in his hand affirmed it to be the stomack."

The earliest treatise on a medical subject, published in this country, was a broadside, 12 inches by 17 in size, written by the Reverend Thomas Thacher, the first minister of the "Old South." It bears date January 21, 1677-8, and was printed and sold by John Foster, Boston. The title is "A Brief Rule To guide the Common People of New England How to order themselves and theirs in the Small Pocks, or Measels." It was intended to furnish some popular hints in regard to the management of this disease, which was then much more prevalent than now. A second edition of this "Brief Rule" was printed in the year 1702.

Dr. Increase Mather wrote a pamphlet entitled "Some further Account from *London*, of the *Small-Pox Inoculated*. The Second Edition. With some Remarks on a late Scandalous Pamphlet Entituled, Inoculation of the Small-Pox as practis'd in Boston," &c., Boston, 1721. The first half of this pamphlet appeared originally in "The Boston

Gazette," of February 5, 1721-22, No. 115, covering the third page of the newspaper; and this impression constituted the first edition. Dr. Mather was also the author of a broadside printed at Boston, in November, 1721, giving "Several Reasons proving that Inoculating or Transplanting the *Small-Pox* is a Lawful Practice, and that it has been Blessed by GOD for the Saving of many a Life."

There is "A LETTER, *about a Good Management under the Distemper of the* MEASLES," &c., which was printed without date or signature, some time during the last century. It is mentioned by Dr. Josiah Bartlett, in his historical address delivered before this Society, June 6, 1810, who speaks of it as being "on the files" of the Massachusetts Historical Society, and leaves it to be inferred that it is in manuscript. Dr. Bartlett says that it was written, probably, during the latter part of the seventeenth century, and that "it can be viewed in no other light, than as an ancient curiosity." Several writers of medical history have repeated the same statement. The copy of the "Letter" in the possession of the Historical Society is a small four-page, printed sheet, and its full title is "A LETTER, *about a Good Management under the Distemper of the* MEASLES, *at this time Spreading in the Country. Here Published for the Benefit of the Poor, and such as may want the help of Able Physicians.*"

It bears the marks of having been folded, and in former times might have been spoken of as "on

the files." It is signed "*Your Hearty Friend and Servant*," and immediately below, the words "Cotton Mather, I guess. by the Style" are written in Dr. Jeremy Belknap's hand-writing. On the authority of this guess it has been ascribed to Dr. Mather; and in the catalogue of ante-revolutionary publications given in the "Transactions" of the American Antiquarian Society, it has been referred to the year 1713 as the date of its appearance, because at that time measles were very prevalent in Boston. An advertisement, however, in "The Boston Evening Post," November 12, 1739, announces this "Letter"—with its long title given exactly—as "Just published," which would seem to fix the time of its appearance. As Mather died February 13, 1728, it is plain that he could not have written it, unless it was a re-publication, of which there is no evidence.

Cotton Mather, however, did write a medical paper entitled "The Angel of Bethesda, An Essay upon the Common Maladies of Mankind," in which he gives a list of "approved remedies for the Maladies, Accompanied with many very practicable Directions for the Preservation of Health." The original manuscript, which was never published in full, is in the possession of the American Antiquarian Society at Worcester. An interesting abstract of it was given by Dr. Joseph Sargent, in the "Proceedings" of that Society, for April 28, 1874. There is internal proof that the essay was completed after the year 1724. It should not be confounded with "The Angel of Beth-

esda, Visiting the INVALIDS of a Miserable WORLD," another tract written by Mather, and published at New London, Connecticut, in the year 1722, but having on the title-page only the signature "By a FELLOW of the ROYAL SOCIETY." There is evidently a connection between the two works, but the manuscript one is fuller and more extensive.

Another medical tract by a minister,—the Reverend Benjamin Colman,—was "Some *Observations* on the *New Method* of Receiving the Small-Pox by *Ingrafting* or *Inoculating*. By Mr. *Colman*."—(Boston, 1721.) The author shows as much familiarity with the subject as was common among the medical writers of that day. He expresses the opinion that he does not go out of his province in preparing the essay, as his sole purpose is to preserve life and minister to the comfort of families.

The Reverend Thomas Harward, "A Licentiate of the *Royal College*, and Lecturer of the *Royal Chapell* [now King's Chapel], at *Boston*, in *New England*," wrote "Electuarium Novum Alexipharmacum; or, A new Cordial, Alexiterial and Restorative Electuary," which was published at Boston, in the year 1732. The author proposed a much-mixed conglomeration to take the place of mithradate, a still more complicated mass of medicated confusion. He speaks of the electuary as "my own," a form of expression which furnished the origin of the word *nostrum*, meaning *our own* or *my own*.

Dr. Nathaniel Williams, who had been an ordained minister, wrote a medical pamphlet which was printed many years after his death. The title was "The METHOD of Practice in the *Small-Pox*, with Observations on the Way of *Inoculation*. Taken from a Manuscript of the late Dr. NATHANIEL WILLIAMS of Boston in N. E. Published for the Common Advantage, more especially of the *Country Towns*, who may be visited with that Distemper."—(Boston, 1752.) At the end it contains four pages with the heading "Small Pox by *Inoculation*. in 1730." Dr. Williams had a large practice, and, perhaps, belongs rather to the class of physicians.

These instances are enough to show that in former times the ministers took an active interest in medicine, and that some of them wrote practical treatises on the subject.

In the Reverend Thomas Prince's preface to the pamphlet last mentioned, it is stated that Williams studied with "the Learned Dr. *James Oliver* of *Cambridge;* one of the most esteemed *Physicians* in his Day; who had a singular Help in the Art of *Chymistry* by the ingenious Dr. *Lodowick* a *German*, who was also accounted an excellent *Physician*, and the most skilful *Chymist* that ever came into these Parts of *America*." I think that Dr. Lodowick was the same person as Christian Lodowick who wrote a letter to Increase Mather, about the Quakers. It is dated February 1, 1691-2, and was subsequently printed.

The colony and province of Massachusetts suffered severely from the scourge of small-pox, and the epidemics of it were periodical. There was no weapon to fight it, and when once started the dreaded disease burned, like a big fire, until all the material for contagion was used up. The mortality from it was large, and the effect disastrous; and any help was a boon to the community. Under these circumstances the introduction of inoculation for small-pox was a long stride in advance, though it was opposed at the outset in part on religious grounds. It was contended by some that an epidemic was a judgment from God for the sins of a people, and any attempt to avert it was an interference with His prerogative and would provoke Him the more. This view was opposed by others; and Dr. Zabdiel Boylston, who was to be a prominent character in the controversy, wrote at the very beginning of it a pamphlet giving "Some ACCOUNT of what is said of Inoculating or Transplanting the *Small Pox*. By the Learned Dr. *Emanuel Timonius*, and *Jacobus Pylarinus* with some Remarks thereon. To which are added A Few *Quæries* in Answer to the *Scruples* of many about the *Lawfulness of this Method*."—(Boston, 1721.)

The Reverend William Cooper, of Boston, wrote "A Reply to the *Objections* made against taking the *Small Pox* in the Way of *Inoculation* from *Principles of Conscience*. In a Letter to a Friend in the *Country*." I have been unable to find the first edition of this pamphlet, but the third was

published at Boston, in the year 1730. The preface, signed by W. Cooper, is dated March 4, 1729–30; and in it he says that "The following Letter was wrote and publish'd more than eight Years agoe, when the Town was in great Distress by the spreading of the Small Pox." He adds also that "Soon after the following Letter was printed here in Boston, it was reprinted in London, together with the Reverend Mr. Colman's Account of the Method and Success of this Practice; to which was prefix'd an historical introduction by the Reverend Mr. Neal."

The introduction of variolous inoculation was the most important event in the medical history of the province; and in promoting it the ministers took a leading part. It occurred in the summer of 1721, when there was not a single practitioner of medicine in Boston, with the exception of Dr. William Douglass, who was a regularly graduated physician. Some of the ministers were the peers of the doctors in medical knowledge, though with less clinical experience. In this state of affairs, it can readily be understood that it was a free fight, whenever there was a medical controversy. Dr. Douglass, the leader of the opponents of inoculation, was a Scotchman who came to Boston in the year 1718. He received his medical education in Paris and Leyden; was a man of fine intellectual parts and a versatile writer. He knew astronomy and could calculate eclipses; he had a taste for natural history, and was withal an excellent botanist. He studied his medical cases, and

took careful notes by the bedside. With a large practice, he wrote on a great variety of subjects, and it is not strange that occasionally he was inexact in his statements. It was wittily said of him by some one that he was always positive and sometimes accurate. He had little tact, and it is not surprising that he found himself continually in controversy. He died on October 21, 1752, having passed his whole professional life in Boston, where he had much influence as a physician.

The credit of the introduction of inoculation into this country is generally given to Cotton Mather, who had read in the Philosophical Transactions of the Royal Society at London, that this method was used in Turkey as a means of protection against small-pox. During a long time the practice had been kept up in Constantinople, where it was brought from Asia, and had met with much success. Dr. Mather was impressed with the importance of the method, and tried to interest the Boston doctors in the subject.

With one exception, however, they seemed to be either indifferent or opposed to the whole matter. This exception was Dr. Zabdiel Boylston, who took up the practice of it amid the most violent opposition of his professional brethren; and on the 26th of June, 1721, he inoculated his own son, Thomas, six years of age, his negro man, Jack, of thirty-six years, and a little negro boy, of two and a half years. They all had the disease very lightly, and he was encouraged to try the experiment on others. In his judgment the safety and

value of the operation were soon established; but the medical profession were sceptical, and their opposition strong and bitter. With Dr. Douglass at their head they talked against it, and wrote against it; and moreover they had the newspaper press on their side. Opposed to them were Dr. Boylston and the ministers, who at last carried the day. At one time the public feeling was so excited that the advocates of the practice were not safe even in their own houses. The town was patrolled by the rabble with halters in their hands, threatening to hang Dr. Boylston—if they could find him—to the nearest tree.

An attempt was made early in the morning of November 14, 1721, by means of a "Fired Granado" to destroy the house of Cotton Mather, who had at the time a kinsman living with him, and under his charge for inoculated small-pox. Fortunately the fuse was shaken out of the shell, and no serious damage done. A full account of the affair is given in "The Boston News-Letter," November 20, 1721, which says that—

"When the Granado was taken up, there was found a paper so tied with a Thread about the Fuse, that it might outlive the breaking of the Shell; wherein were these Words: *COTTON MATHER. I was once one of your Meeting; But the Cursed Lyᵉ you told of —— —— You know who; made me leave You, You Dog, And Damn You, I will Enoculate you with this, with a Pox to you.*"

Of the Boston newspapers "The New England Courant," edited by James Franklin, was particularly hostile to the new method. The editor was an elder brother of Benjamin, at this time the embryonic philosopher, who also worked on the

paper both as a compositor and writer. Within the period of one year Dr. Boylston inoculated 247 persons, and of this number only six died; and during the same time 39 other persons in the neighborhood were inoculated by two other physicians, and all made good recoveries. This low rate of mortality, as compared with that among persons who had taken small-pox in the natural way, was a telling argument in favor of inoculation. The array of these statistics carried the public to the side of Dr. Boylston, who was now honored to the same degree that he had previously been libelled by a fickle populace. He was invited by Sir Hans Sloane, the Court Physician, to visit London, where he received the most flattering attentions from the scientists of England, as well as from the reigning family. He was chosen a member of the Royal Society, and read a paper before that learned body, on the subject of small-pox inoculation in New England. This was published in London in the year 1726, and dedicated by permission to the Princess of Wales. In this pamphlet he gives a minute account of many of his cases, telling the names of his patients in full, besides stating their ages; and in the preface he apologizes for the liberty he has taken in doing so. A second edition of this pamphlet was published at Boston, in the year 1730. In the course of time inoculation conquered all opposition, and finally became a well established fact in the community. Some of those who had bitterly opposed it were now its warmest friends. Notably among them was Dr. Benjamin

Franklin; and in the small-pox epidemic of 1752, even Dr. William Douglass both practised inoculation and spoke of it as a "most beneficial Improvement." In writing on the subject he expresses himself "at a loss for the Reasons, why Inoculation hitherto is not much used in our Mother Country, *Great Britain;* considering that it has with good Success been practised in our Colonies or Plantations."[1] During three quarters of a century the practice was continued, until it was superseded by the great discovery of Jenner.

It is worthy of note that the introduction here of variolous inoculation was hardly two months after it had been successfully tried in England, though Dr. Boylston and his coadjutors had no knowledge of the fact. Small-pox spread with such fury and fatality during the summer of 1721, that the Massachusetts Legislature passed a resolve—applicable, however, only to the town of Boston—that no bell should be tolled for the burial of persons who had died of the disease, except such as the selectmen of the town should direct. And, pursuant to this resolve, it was ordered September 21, 1721, "That one Bell only be made use of for a Funeral and that to be Tolled but Twice, each Tolling not to exceed the space of Six Minutes." The following clause also was added, as a snapper, showing that the race prejudices of a century and a half ago pursued the innocent victims even after life had left the body: "Further that there be but one Tolling of a Bell for the

[1] Douglass's Summary, ii. 412.

Burial of any *Indian*, *Negro* or *Malatto*, and that they be carried the nearest way to their Graves."

The next excitement in the medical history of Massachusetts was an epidemic that raged in Boston and its neighborhood, and excited great consternation. This was described at the time by Dr. Douglass, a close observer in such cases, who wrote a good account of it. The title of this pamphlet, which has already been mentioned in page 548, is: "The Practical HISTORY of A New Epidemical Eruptive Miliary Fever, with an Angina Ulcusculosa which Prevailed in *Boston* New England in the Years 1735 and 1736."—(Boston, 1736.) The diagnosis was rather obscure, and the disease baffled the skill of the physicians. "It was vulgarly called the *Throat Illness*, or a *Plague in the Throat*, and alarmed the Provinces of New-England very much." Dr. Thacher, in his account of Douglass in the "American Medical Biography," calls the disease by the name of *angina maligna*, which is a generic term and includes any inflammatory affection of the throat or fauces, such as quinsy, malignant sore-throat, croup, or mumps. It has been considered also to be scarlatina; but the description leaves little doubt in my mind that the diagnosis at the present time would be diphtheria. Dr. Douglass's essay was republished in "The New-England Journal of Medicine and Surgery" (Boston, 1825), with an editorial note that "it has been pronounced by competent judges

one of the best works extant upon the subject of which it treats" (XIV. 1–13).

The disease was so malignant and the public so much alarmed, that the town of Boston, in its corporate capacity, took action in the matter; and the following circular in "The Boston Weekly News-Letter," April 29, 1736, will explain itself:—

THE *Select-Men of the Town of Boston*, in order to inform the Trading Part of our neighbouring *Colonies*, concerning the State of the present *prevailing Distemper* in this Place, did desire a Meeting of as many of the *Practitioners in Physick* as could then be conveniently obtain'd. The Practitioners being accordingly met, did unanimously agree to the following *Articles;*

1. THAT upon the first appearance of this *Illness* in *Boston* the *Select-Men* did advise with the *Practitioners;* but they at that Time having not had Opportunities of observing the Progress of the *Distemper,* it was thought advisable (until further Experience) to shut up that *Person* who was supposed to have received it in *Exeter* to the Eastward; upon his Death the Watch was soon removed, but no Infection was observed to spread or catch in that Quarter of the Town; therefore no Watches were appointed in the other Parts of the Town where it afterwards appeared, the Practitioners judging it to proceed from some *occult Quality in the Air,* and not from any observable *Infection communicated by Persons or Goods.*

2. THE *Practitioners* and their Families have not been *seized* with this Distemper in a more *remarkable* manner (and as it has happened not so much) than other Families in Town, even than those Families who live in solitary Parts thereof.

3. AS to the *Mortality* or Malignity of this Distemper, all whom it may concern are referred to the *Boston* Weekly-Journal of *Burials:* by the Burials it is notorious, that scarce any Distemper, even the most favourable which has at any Time prevail'd so generally, has produc'd fewer Deaths.

4. AS formerly, so now again after many Months Observation, we conclude, That the present prevailing Distemper appears to us to *proceed from some Affection of the Air, and not from any personal Infection receiv'd from the Sick, or Goods in their neighbourhood.*

NATHANIEL WILLIAMS
WILLIAM DOUGLASS
JOHN CUTLER
HUGH KENNEDY
WILLIAM DAVIS
THOMAS BULFINCH.

Nathaniel Williams, whose name heads the signatures, was an active and useful man in his day and generation. In the affairs of life he performed the triple *rôle* of preacher, doctor, and schoolmaster. The union of these three characters was no infrequent occurrence in former times. In each he appears to have played well his part; and his career entitles him to more than a passing notice. He was the son of Nathaniel and Mary (Oliver) Williams, and was born in Boston, August 23, 1675. He graduated at Harvard College in the class of 1693, and in the summer of 1698 was ordained,—according to the sermon preached at his funeral by Thomas Prince,—"an EVANGELIST in the *College-Hall*, for one of the *West India Islands*. But the climate not agreeing with his Constitution, He soon returned to this his *native City*." At one time he was engaged in giving private instruction to boys, and he had the reputation of being an excellent classical scholar. In the year 1703 he was appointed usher at the Free Grammar School, now known as the Boston Latin School; and subsequently, in 1708, he was chosen to the mastership, which position he held until 1734. He studied "*Chymistry* and *Physick*, under his Uncle the Learned Dr. *James Oliver* of *Cambridge;* one of the most esteemed *Physicians* in his Day;" and even while teaching continued to practise his profession of medicine. He died January 10, 1737–38; and "The Boston Weekly News-Letter" of January 12 calls him "the Reverend and Learned Mr. *Nathaniel Williams*," and speaks of him "as

a very skilful and successful *Physician;*" and says that "as his Life has been very extensively serviceable, so his Death is esteemed as a public Loss." A posthumous pamphlet by him has been previously mentioned in page 602 of this Address.

The career of Dr. William Douglass has been already noted.

John Cutler was the son of John Cutler, and born August 6, 1676, at Hingham. The father was a "chirurgeon," and served in King Philip's War. He came originally from Holland, where his name was written Demesmaker. On coming to this country he adopted the English translation of his Dutch patronymic, and called himself Cutler; and ever afterward the family was so designated. His marriage is thus given in the town-records of Hingham:—

"Johannes Demesmaker, a Dutchman (who say his name in English is John Cutler) and Mary Cowell the daughter of Edward Cowell of Boston were marryed by Captaine Joshua Hobart on the fourth day of January 1674."

The births of seven children are also recorded in the same records. I give the entries of the two oldest and the two youngest of these children, as they show how the distinction between the names was made at the outset, and that it was dropped in the course of time. The oldest child was John, who became the physician and signed the circular relating to the epidemic.

"Johannes Demesmaker, whose name in English is John Cutler. the son of Johannes Demesmaker a Dutchman and of Mary his wife was born on the sixt day of August 1676."

"Peter Demesmaker (the son of Johannes Demesmaker a Dutchman & of Mary his wife an English woman) was born on the seventh day of July 1679."

"David Cutler, y^e^ son of Doctor John Cutler & of Mary his wife was born the first of November 1689."

"Ruth Cutler the daughter of Doctor John Cutler & of Mary his wife was born y^e^ 24th of February 169½."

The father removed to Boston about the year 1694, and lived in Marlborough Street, now a part of Washington Street, near the Old South Meeting-house. He had a large practice, and was the preceptor of Dr. Zabdiel Boylston, who afterward became famous during the time of the small-pox inoculation. He died probably in the winter of 1717, and his son, John, Jr., inherited his practice as well as the homestead. The son married the widow, Mrs. Joanna (Dodd) Richards; and he was actively connected with the King's Chapel, of which church he was a warden. He died September 23, 1761, having lived a long life of usefulness.

It requires no great stretch of the imagination to suppose that Hugh Kennedy, the fourth signer of the circular, was a Scotchman.

Of William Davis, the next signer, I can learn almost nothing. He died probably in the winter of 1746, as the bond given by the administratrix of the estate was dated March 28, 1746. An inventory of his property contained among the items "Druggs [£] 284: 4: 4;" "Chirurgical Instrum^ts^ of all Sorts 120;" "3 Glass Cases of Veins & Anat: 50." This appraisal was made according to the paper money of New England, which at that time was much depreciated; and it would be difficult to calculate the gold value.

Thomas Bulfinch, the last signer, was the son of Adino Bulfinch, a merchant of Boston, who came

to this country from England about the year 1680. The son was born in 1694, and began the study of his profession with Dr. Zabdiel Boylston as his preceptor. He afterward went to London and received instruction in anatomy and surgery under the famous Cheselden, and subsequently to Paris, where he completed his professional education. On his return to Boston he married a daughter of John Colman, at that time a prominent merchant; he soon acquired the reputation of an excellent physician, and enjoyed a very large practice. He died December 2, 1757, leaving a son, Thomas, Jr., who followed in the footsteps of his father as a successful practitioner.

The first inoculating hospitals in the neighborhood of Boston—one at Point Shirley and the other at Castle William, now Fort Independence —were opened in the winter of 1764, during an epidemic of small-pox. The Point Shirley hospital was established by the Governor of the Province, with the advice of the Council, and placed under the charge of several physicians. A notice in "The Boston Post-Boy & Advertiser," March 19, 1764, sets forth that—

"Those Physicians of the Town of *Boston* who are engaged in carrying on the inoculating Hospital at *Point-Shirley,* being prevented giving their constant Attendance there during the continuance of the *Small-Pox* in Town, hereby notify the Public, that they are join'd by Doctor *Barnett* of *New-Jersey,* who will constantly attend at said Hospital with one or other of said Physicians whose Business will permit, and employ the utmost Diligence and Attention for the relief of those that put themselves under their care. They further notify, that *Point-Shirley* contains as many comfortable and decent Houses as will be sufficient to accommodate as many Persons as will probably ever offer for Inoculation at one Time, from this or the neighbouring Governments and

is well furnished with every requisite Convenience both for Sickness and Health."

Dr. William Barnett lived at Elizabethtown, New Jersey, and had acquired considerable reputation in Philadelphia as a promoter of variolous inoculation.

The Castle William hospital was opened—to quote from "The Boston Post-Boy & Advertiser," February 27, 1764—

"In order to inlarge the Conveniences for Inoculation in addition to those already proposed at Point-*Shirley*, that every Person desirous of undergoing that Operation may have an Opportunity of doing it, without endangering the Spreading the Distemper, and that this Town may be, as soon as possible, freed from the apprehension of the Small-Pox; the Governor has consented that the Barracks of *Castle-William* shall be improved for the Purpose of Inoculation, from this Time into the Middle of *May* next. And the said Barrack are now opened to ALL PHYSICIANS having Patients to Inoculate, under such Rules as shall be thought proper to be made for that purpose.

"There are in the Barracks 48 Rooms, each of which will contain ten Patients conveniently."

The following advertisement in the same newspaper, of March 5, 1764, furnishes the principal details of its administration:—

DR. SAMUEL GELSTON

Gives this Publick Notice to his Patients in *Boston* and the adjacent Towns, that he has prepared (by Permission of his Excellency the Governor) all comfortable Accommodations for them at the Barracks at *Castle-William*, in order to their being inoculated for the Small-Pox under his immediate Care.

N. B. His Rooms are in that Part of the Barracks where the Patients of Dr. *Nathaniel Perkins*, Dr. *Whitworth* and Dr. *Lloyd's* are received.

☞ Dr. *Gelston* and Dr. *Warren* reside at *Castle-William* Day and Night.

ALL Persons inclined to go to the Barracks at *Castle-William* to be inoculated where Dr. GELSTON resides, may apply to Dr. LLOYD at his House near the King's Chapel, who will provide them a Passage to the *Castle*.

Dr. Gelston was a physician of Nantucket, and had previously managed a small-pox hospital at Martha's Vineyard, where he had successfully inoculated eighty-one persons. There were at this time several private establishments in the town at which inoculation was carried on.

It is said that many came to Boston from all parts of the Province, and from other colonies, to be treated in these hospitals. During a period of five weeks after they were first opened, it is estimated that more than 3,000 persons received the disease; and not a fatal case among them. "The Boston Post-Boy & Advertiser," April 16, 1764, is my authority for the statement.

It was during this epidemic that the library of Harvard College was burned on the night of January 24, 1764. The fire occurred in vacation time, and while the building was used by the General Court, which was then sitting temporarily in Cambridge, on account of the small-pox in Boston. Among the losses a contemporaneous account mentions—

"A collection of the most approved medical Authors, chiefly presented by Mr. James, of the island of Jamaica; to which Dr. Mead and other Gentlemen have made very considerable additions: Also anatomical cutts and two compleat skeletons of different sexes. This Collection would have been very serviceable to a Professor of Physic and Anatomy, when the revenues of the College should have been sufficient to subsist a gentleman in this character."—("The Boston Post-Boy & Advertiser," January 30, 1764.)

The allusion contained in the last paragraph seems to indicate that the question of a medical professorship in the college had been broached

before this time. Even in the earliest days of the institution a certain amount of instruction had been given in medicine. Small though it was, it is not for us to despise its influence. Johnson, in his "Wonder-Working Providence" (London, 1654), — written about the year 1650, — describes the College at a period near that time, and says that "some help hath been had from hence in the study of Physick."—(Page 165.) It is very likely that Cambridge was the place where Giles Firmin taught anatomy, as mentioned in page 571 of this Address.

An inoculating hospital was opened on Cat Island, near Marblehead, about the middle of October, 1773. It was known as the Essex Hospital, and had accommodations for eighty patients. It was a private affair, owned by proprietors, though it was "approved by the Gentlemen Select-Men of Salem and Marblehead." An excellent code of regulations, which were to govern it, is found in "The Essex Gazette," October 5, 1773. It was not destined to last long, however, as it was burned by some ruffians on the night of January 26, 1774. There had been a strong feeling against the hospital on the part of the inhabitants; and a few days before the burning, four men suspected of carrying the infection were tarred and feathered, and drummed out of town. It was estimated that there were one thousand persons in the procession escorting the victims. The mob marched to Salem, four miles distant, and then paraded through the

principal streets of this town. A Salem newspaper of that time heartlessly remarks that—

"the exquisitely droll and grotesque appearance of the four tarred and feathered Objects of Derision, exhibited a very laughable and truly comic Scene."

Two of the ringleaders of the mob which destroyed the hospital were arrested on February 25, and confined in the jail at Salem, whence they were rescued by another mob, and taken back to Marblehead. The popular feeling was with the rioters, and it was found impossible to bring the ruffians to justice; and so the matter ended.

As early as March, 1761, Dr. Sylvester Gardiner had made a proposition to the town of Boston to build at his own cost an inoculating hospital on a piece of land, northward from the building which he had previously put up during the French war, for sick and wounded sailors; but it does not appear that the offer was accepted. In the account, as printed in the "Proceedings of the Massachusetts Historical Society," for June, 1859, it is stated that—

"No person in town is to pay more than four dollars for inoculation, medicines, and attendance, and three dollars per week for diet, nursing, and lodging, during his or her illness."

It was during the Revolution that dentistry, a kindred art to medicine, began to be practised. It sprang from a humble beginning, but it has grown to large proportions. With its advanced schools, as a twin sister of the medical profession it challenges our attention and respect. Some of its teachers, by their thorough work and patient in-

vestigations, have written their names on the roll of science, and placed the present generation under lasting obligations. Many of its number are graduates of medicine; and I have not forgotten the fact that two of the principal founders, as well as professors, of the Harvard Dental School, Dr. Nathan Cooley Keep and Dr. Thomas Barnes Hitchcock, who are now no longer living, received their professional degrees at the Harvard Medical School, and both were members of this distinguished Society.

The following advertisements, taken from two Boston newspapers, printed a century ago, will give an insight of dentistry at that time:—

Gentlemen and Ladies that may want Artificial Teeth, may have them made and fixed in the neatest manner, without the least pain by ISAAC GREENWOOD, Ivory-Turner, at his house in the Main Street, between the Old South and Seven-Star Lane, at the South-End of BOSTON; they help the Speech as becoming as the natural ones.

☞ *Ladies, wax rots your Teeth and Gums, throw it away. Come and have your Teeth cleansed, and if done in time, saves them from rotting and parting from the Gums.*

N. B. Said GREENWOOD continues to make Artificial Leggs and Hands: Turns in Ivory, Bone, Silver and Wood: Makes Fifes, German-Flutes, Hautboys, &c. &c.

☞ *Ladies please to send your Umbrilloes to be mended and cover'd*—("The Continental Journal and Weekly Advertiser," April 20, 1780.)

Isaac Greenwood was the father of John Greenwood, a dentist of repute in New York who made a set of teeth for General Washington about the time Stuart painted his portrait. In many of the engravings of Washington it is common to see a fulness about the mouth, which is due to the

artificial set. At that period, false teeth were kept in position either by springs or clasps; and the principle of holding them in place by atmospheric pressure was not understood.

MR. TEMPLEMAN,

SURGEON DENTIST,

Incouraged by the success of his practice in different parts of Europe and America, begs leave to acquaint the public, That he is furnished with materials with which, and a dexterity peculiar to the art,

He preserves the Teeth,
Cures the scurvy in the Gums,
Extracts and transplants Teeth,
Scales Teeth,
Substitutes artificial Teeth,
Gives the Teeth proper vacancies,
Regulates childrens Teeth,
And plumbs concave Teeth,

which prevents their colluting or being offensive, besides many other operations too tedious to mention, as without the least pain (except that of extracting) since scaling the Teeth is carefully to take from them an infectious tartar which destroys the animal [enamel?], eats the gums, renders them spungy ULCERATED, and incapable of affording any support. Its being removed, which is not in the power of composition to effect, renders the gums firm, and leaves the teeth in their natural purity. Many people blame the climate, &c. for the loss of Teeth,—But it is too often the case, as I've observ'd in the course of my practice on the Continent, that but few people take care of their Teeth, till they become defective. The Europeans are remarkable (particularly the French) for their good and beautiful Teeth, owing to their own care, and knowledge of the art.

N. B. Mr. TEMPLEMAN will, with pleasure, attend those Ladies or Gentlemen who cannot conveniently wait on him at Mrs. Frazier's, near the Town-House, Boston.—("The Boston Gazette and The Country Journal," October 8, 1781.)

During the generation immediately preceding the Revolution, the science of medicine in Massachusetts was making progress by slow but steady steps. The bond of union with the clerical pro-

fession, existing from the earliest days of colonial life, had been cut; and there was no longer any practical connection between the two callings. Medicine had passed through the creeping stage, and was now beginning to walk alone. It was a long stride in advance when men began to turn their studies in one direction, and to make a specialty of general practice. The opportunities, however, were few for the successful prosecution of this object. There were neither medical schools nor hospitals; and the young men were obliged to pursue their studies under the guidance of practising physicians. Frequently they were bound out, like apprentices, to their instructors, and were compelled to do all sorts of chores around the house and barn, as well as the professional drudgery. In those days the physicians used to buy their own drugs and prepare their own medicines; and it was the province of the students to pound the bark and spread the plasters, as well as to mix the ointments and make the pills. In short they were to be useful to their employers, as best they might in any way, whether in bleeding patients, pulling teeth, or attending to other cases of minor surgery. Sometimes they boarded with their masters, being inmates of their families; and occasionally they formed alliances and attachments which lasted beyond the period of their studies. Instances might be given where the instructor watched the development of a fledgling doctor with all the interest of a father-in-law. It was customary for physicians in their daily rounds of practice to be

accompanied by their scholars, in order to show them the different forms of disease, and to teach them the rules of diagnosis. On their return home the young men would sometimes undergo a form of questioning, which was considered an examination. In this way, with a certain amount of medical reading, the main supply of doctors was kept up. The few exceptions were persons who went abroad to study, where of course they had the best opportunities that science could then give. On coming back to their native land, such students brought with them the freshest ideas and the latest expression of medicine, which they were not slow to impart to others. Aside from these advantages they returned with a diploma and had the right to affix M.D. to their names, an honor beyond the reach of those who had remained at home.

Among the physicians of this period who had not the benefit of a foreign education, but who acquired a high professional skill and a wide local reputation,—and who withal were early members of this Society,—may be mentioned:—

Samuel Adams, of Boston; Israel Atherton, of Lancaster; Joshua Barker, of Hingham; Timothy Childs, of Pittsfield; John Cuming, of Concord; John Flagg, of Lynn; Nathaniel Freeman, of Sandwich; Lemuel Hayward, of Boston; Samuel Holten, of Danvers; Ebenezer Hunt, of Northampton; Thomas Kittredge, of Andover; Oliver Prescott, of Groton; Nathaniel Saltonstall, of Haverhill; Micajah Sawyer, of Newburyport;

Marshall Spring, of Watertown; John Barnard Swett, of Marblehead; the brothers Simon and Cotton Tufts, of Medford, and Weymouth, respectively.

These were all marked men in their day and generation. They were in active practice one hundred years ago, and at that time were sustaining a part in the daily affairs of New England life, which was not surpassed in responsibility and usefulness by that of the same number of persons in any walk or profession. They were in every sense of the word general practitioners, as specialties in medicine were then unknown. Most of them lived at some distance from other physicians, and in cases of emergency they were obliged to rely on themselves alone. This experience made them symmetrical men; they were developed in all branches of medicine and on all sides of practical questions, as far as science had then gone.

The physicians of this period who had studied their profession in Europe were few in number. Notably among them were Charles Jarvis, John Jeffries, and James Lloyd, all of Boston, and members of this Society. Jarvis was a Boston Latin School boy, and a graduate of Harvard College in the class of 1766. After finishing his medical studies in Boston, he went to England, and took practical courses in medicine and surgery. On his return he established himself in Boston, where he enjoyed a large and successful practice. Dr. Jarvis gave but little medicine, and to-day would be considered a good representative of the "expectant school"

of the profession. He took a prominent part in public affairs, and was a "Jeffersonian" in politics. He died November 15, 1807, aged fifty-nine years.

John Jeffries was the son of David Jeffries, for thirty-one years the town treasurer of Boston. The son graduated at Harvard College in the year 1759, with the highest honors of his class, and began at once his medical studies under Dr. Lloyd. Subsequently he studied in England, and took his degree of M.D. at the University of Aberdeen in Scotland. During the Revolution he served on the British side, and it was not until the year 1790 that he returned to his native town to practise his profession. He died September 16, 1819, deeply lamented by his friends.

James Lloyd was a native of Oyster Bay, Long Island, where he was born March 14, 1728. He began his professional studies in Boston, under the guidance of Dr. William Clark, with whom he remained nearly five years. At the end of this time he went to England, where he enjoyed the most favorable opportunities of seeing the practice of the best physicians and surgeons of that time. He came back to Boston in the year 1752, and at once entered upon the duties of his chosen profession, in which he soon became eminent. He has the name of being the first educated obstetrician in the country, as well as the credit of introducing the practice of amputation by the flap operation, or double incision, as it was then called. Dr. Lloyd was a man of many accomplishments, and during the last half of the last century the

prominent figure of the profession. He died March 14, 1810, at the advanced age of eighty-two years.

Dr. Lloyd had studied midwifery under the distinguished Smellie, of London; and after his return home he was considered throughout the province the best authority in this branch of medicine. Before this period midwifery had been practised almost exclusively by women, and physicians were summoned only in difficult cases. At the time of the incorporation of this Society, the practice of obstetrics among physicians had become quite general in the larger towns of the State.

The following advertisement, in "The Boston Evening Post and The General Advertiser," November 10, 1781, announces that after that date the terms of the Boston doctors would be—to use a current expression of the shop—cash on delivery:—

THE PHYSICIANS
of the Town of BOSTON,

HEREBY inform the Public, that, in Consideration of the great Fatigue and inevitable Injury to the Constitution, in the Practice of MIDWIFERY, as well as the necessary Interruption of the other Branches of their Profession, they shall, for the future, expect, that in Calls of this Kind, the FEE be immediately discharged.

BOSTON, Nov. 6, 1781.

A work on Obstetrics—probably the first one printed in the country—was published at Boston in the year 1786. It was profusely illustrated with engravings; and the title-page reads as follows:—

"An Abridgement of the Practice of Midwifery: and a set of Anatomical Tables with explanations. Collected from the Works of the Celebrated W. Smellie, M.D. A new Edition. Boston: Printed & sold by J. Norman at his office near the Boston-Stone."

II.

Thus far in these pages I have tried to sketch the rise and progress of medicine in Massachusetts during the colonial and provincial periods; and this imperfect outline of its history may give some idea of the antecedents and traditions of the Medical Society. The corner-stone was laid on such a ground-work; the structure was built on such a foundation. It was so planned that additions and changes might be made to meet the wants of advancing time, and not weaken the unity or symmetry of the whole. The workmen were earnest and honest, and the result proves their faithful labor. They have erected an edifice which has stood the test of a century, and seemingly bids fair to last for ages to come.

I now purpose to trace in some detail the development of the Society from its beginning one hundred years ago, to the present time.

Civil commotion stirs up thought and quickens mental activity. When the first steps were taken to establish this Society, the surrender of Yorktown had not occurred, and it was a matter of grave doubt when the Revolution would come to an end; but a six years' war had drilled the popular mind in great things. The uncertainty of public affairs tended rather to excite effort than to repress it. In such a time and under such conditions the

Massachusetts Medical Society was organized. It was no small affair to bring together from all parts of the Commonwealth the representatives of the medical profession, and to harmonize their conflicting views. Berkshire county was two days distant from Boston, and relatively as far off as Chicago and St. Louis are to-day; while that large northeast territory, called the District of Maine, was as little known as the farthest northwest region is known to us now. Between the different sections of the State there were then small conveniences for general travel, and few postal facilities, by means of which an interchange of visits and ideas, so conducive to unification of action, could be brought about. The formation of this Society at once increased professional intercourse, in spite of these difficulties, and accomplished excellent results.

The Act of Incorporation, under which this Society first met one hundred years ago, is found in the first volume of its "Communications" (pages viii–xi), and is as follows:—

COMMONWEALTH *of* MASSACHUSETTS.

In the Year of our Lord, 1781.

An ACT to incorporate certain PHYSICIANS, by the Name of *The* MASSACHUSETTS MEDICAL SOCIETY.

As health is essentially necessary to the happiness of society; and as its preservation or recovery is closely connected with the knowledge of the animal economy, and of the properties and effects of medicines; and as the benefit of medical institutions,

formed on liberal principles, and encouraged by the patronage of the law, is universally acknowledged:

Be it therefore enacted by the Senate and House of Representatives in General Court assembled, and by the authority of the same, That, *Nathaniel Walker Appleton, William Baylies, Benjamin Curtis, Samuel Danforth, Aaron Dexter, Shirley Erving, John Frink, Joseph Gardner, Samuel Holten, Edward Augustus Holyoke, Ebenezer Hunt, Charles Jarvis, Thomas Kast, Giles Crouch Kellogg, John Lynn, James Lloyd, Joseph Orne, James Pecker, Oliver Prescott, Charles Pynchon, Isaac Rand, Isaac Rand, jun. Micaijah Sawyer, John Sprague, Charles Stockbridge, John Barnard Swett, Cotton Tufts, John Warren, Thomas Welsh, Joseph Whipple, William Whiting,* be, and they hereby are formed into, constituted and made a body politic and corporate, by the name of *The Massachusetts Medical Society;* and that they and their successors, and such other persons as shall be elected in the manner hereafter mentioned, shall be and continue a body politic and corporate by the same name forever.

And be it enacted by the authority aforesaid, That the fellows of said society may from time to time elect a president, vice president and secretary, with other officers as they shall judge necessary and convenient; and they the fellows of said society, shall have full power and authority, from time to time, to determine and establish the names, number and duty of their several officers, and the tenure or estate they shall respectively have in their offices; and also to authorize and empower their president or some other officer to administer such oaths to such officers as they, the fellows of said society, shall appoint and determine for the well ordering and good government of said society, provided the same be not repugnant to the laws of this commonwealth.

And be it enacted by the authority aforesaid, That the fellows of said society shall have one common seal, and power to break, change and renew the same at their pleasure.

And be it enacted by the authority aforesaid, That they, the fellows of said society, may sue and be sued in all actions, real, personal or mixed, and prosecute and defend the same unto final judgment and execution, by the name of *The Massachusetts Medical Society.*

And be it enacted by the authority aforesaid, That the fellows of said society may from time to time elect such persons to be fellows thereof, as they shall judge proper; and that they, the fellows of said society, shall have power to suspend, expel or disfranchise any fellows of said society.

And be it enacted by the authority aforesaid, That the fellows of said society shall have full power and authority to make and enact such rules and bye laws for the better government of said

society, as are not repugnant to the laws of this commonwealth; and to annex reasonable fines and penalties to the breach of them, not exceeding the sum of *twenty pounds,* to be sued for and recovered by said society, and to their own use, in any court of record within this commonwealth proper to try the same; and also to establish the time and manner of convening the fellows of said society; and also to determine the number of fellows that shall be present to constitute a meeting of said society; and also, that the number of said society, who are inhabitants of this commonwealth, shall not at any one time be more than seventy, nor less than ten; and that their meetings shall be held in the town of *Boston,* or such other place within this commonwealth, as a majority of the members present in a legal meeting, shall judge most fit and convenient.

And whereas it is clearly of importance, that a just discrimination should be made between such as are duly educated and properly qualified for the duties of their profession, and those who may ignorantly and wickedly administer Medicine, whereby the health and lives of many valuable individuals may be endangered, or perhaps lost to the community:

Be it therefore enacted by the authority aforesaid, That the president and fellows of said society, or other such of their officers or fellows as they shall appoint, shall have full power and authority to examine all candidates for the practice of physic and surgery, (who shall offer themselves for examination, respecting their skill in their profession) and if upon such examination, the said candidates shall be found skilled in their profession, and fitted for the practise of it, they shall receive the approbation of the society in letters testimonial of such examination, under the seal of the said society, signed by the president, or such other person or persons as shall be appointed for that purpose.

And be it further enacted by the authority aforesaid, That if the said president, and such other person or persons, so elected and appointed for the purpose of examining candidates as aforesaid, shall obstinately refuse to examine any candidate so offering himself for examination as aforesaid, each and every such person so elected and appointed as aforesaid, shall be subject to a fine of *one hundred pounds,* to be recovered by the said candidate, and to his own use, in any court within this commonwealth proper to try the same.

And be it further enacted by the authority aforesaid, That the fellows of said society may, and shall forever be deemed capable in law, of having, holding and taking in fee simple or any less estate by gift, grant or devise or otherwise, any land, tenement or other estate, real or personal; provided that the annual income of the whole real estate that may be given, granted or devised to, or pur-

chased by the said society, shall not exceed the sum of *two hundred pounds*, and the annual income or interest of said personal estate, shall not exceed the sum of *six hundred pounds;* all the sums mentioned in this act to be valued in silver at *six shillings and eight pence* per ounce: and the annual income or interest of the said real and personal estate, together with the fines and penalties paid to said society, or recovered by them, shall be appropriated to such purposes as are consistent with the end and design of the institution of said society, and as the fellows thereof shall determine.

And be it further enacted, That the first meeting of the said Medical Society shall be held in some convenient place in the town of *Boston;* and that *Edward Augustus Holyoke*, Esq; be, and he hereby is authorised and directed to fix the time for holding the said meeting, and to notify the same to the fellows of said Medical Society.

In the House of Representatives, October 30, 1781.

This bill having had three several readings, passed to be enacted.

NATHANIEL GORHAM, Speaker.

In Senate, November 1, 1781.

This bill having had two several readings, passed to be enacted.

SAMUEL ADAMS, President.

Approved, JOHN HANCOCK.

A true copy.

Attest, JOHN AVERY, jun. Secretary.

In accordance with the last clause of this Act, Dr. Holyoke published a notice in "The Boston Gazette and The Country Journal," November 12, 1781, calling a meeting of the members whose names are mentioned in the charter. It was called "at the County Court-House, in Boston, on Wednesday the 28th Day of this Instant November, at Ten o'Clock, A. M. for the Purpose of chusing Officers of the Society, and transacting any other Matter (which by this Act they are empowered to

do) as they shall think proper." The charter members were thirty-one in number and represented different sections of the State: fourteen of them lived in Boston; two in Newburyport; two in Salem; and one in each of the following towns:— Cambridge, Danvers, Dedham, Dighton, Great Barrington, Groton, Hadley, Northampton, Portland, Rutland, Scituate, Springfield, and Weymouth. By counties, as constituted at that time, Suffolk had sixteen members; Essex had five; Hampshire, three; Middlesex, two; Berkshire, Bristol, Plymouth, Worcester, and Cumberland, in the District of Maine, one each.[1]

The first meeting of the corporation was duly held in the County court-house, on November 28, 1781, at which time there were present nineteen of the thirty-one persons whose names are given in the Act of Incorporation. The court-house of that period stood on the site of the present one in Court Street. The first vote passed was that the officers at this meeting should be chosen *pro tempore;* and subsequently "Edward Augustus Holyoke Esq:" was elected president, "Doct.r Isaac Rand jun.r" secretary, and "Doct.r Thomas Welsh," treas-

[1] A curious incident happened in connection with the formation of the Medical Society. The name of John Sprague appears among those mentioned in the Act of Incorporation; and accordingly Dr. John Sprague, of Dedham, was present at the early meetings and took part in the proceedings. This continued until July 18, 1782, when Dr. John Sprague, of Newburyport, was chosen a member. At the meeting of the Councillors, held October 4, 1782, a reply to the notification of his election was read, wherein he stated that he was the senior physician of the name in the State, and that he considered himself already a member by the charter. Dr. Sprague, of Dedham, who was present at the time, quietly resigned his supposed membership; but he was chosen again a member at the same meeting.

urer. The records follow the precedent of the Act in withholding the medical title from Dr. Holyoke's name. Perhaps it was because Dr. Holyoke held a commission as Justice of the Peace; and the title of Esquire at that time carried a great deal of dignity with it.

The second meeting was held in the court-house, on April 17, 1782, and Dr. Samuel Holten chosen president *pro tempore.* A committee, consisting of Drs. Tufts, Warren, and Appleton, was appointed to consider the form of letters testimonial to be given to those candidates who were approved by the censors of the Society; and to invent a device and motto for a seal. This was an important committee, and they appear to have reported at the next meeting,—though I do not find any record of the details,—when they asked for further time in regard to the seal. One of the prime objects of the Society was to draw a line between the intelligent and the ignorant practitioners of medicine; and it was the function of this committee to devise some method to reach that end. Even the matter of the seal was considered sufficiently important to be mentioned in a separate clause of the original Act.

The third meeting was held on June 5, 1782, and Dr. James Lloyd chosen president "*pro hac vice.*" At this meeting permanent officers were elected for the ensuing year; and as the pioneers of a long line of eminent physicians who have held office in this distinguished organization, I give the names of all, as taken from the records:—

Edward Augustus Holyoke Esq. President
Doct^{r} James Pecker Vice President

Doct^{r} Samuel Danforth
Doct^{r} Joseph Gardner
Hon: Sam^{l} Holten Esq.
James Lloyd Esq.
Doct^{r} Isaac Rand jun^{r}
Doct^{r} John Sprague
Hon: Cotton Tufts Esq
} Counsellors

Doct^{r} John-Barnard Swett Corresponding Secr^{y}
Doct^{r} Nath.-Walker Appleton Recording Secr^{y}
Doct.^{r} Thomas Welsh Treasurer
Doct^{r} Aaron Dexter Vice Treasurer & Librarian

Doct^{r} Sam^{l} Danforth
Doct^{r} Charles Jarvis
Doct^{r} Joseph Orne
Hon: Cotton Tufts Esq.
Doct^{r} John Warren
} Censors

At this meeting it was voted

"That a Committee be appointed to publish a List of the Officers this day elected, to announce to the Public that the Massachusetts Medical Society is organized, also to invite the Correspondence of the Faculty and others as they shall think proper."

By the Act of Incorporation, Dr. Holyoke was empowered to name the time and place for holding the first meeting of the Society; and it was a fitting supplement to the previous arrangements that he should be chosen its first president. He is so well known by reputation, that it seems needless to give many details about him. Born in Salem, August 1, 1728, he graduated at Harvard College in the class of 1746, and began the study of medicine under the guidance of Dr. Thomas Berry, of Ipswich. After its completion he entered upon the practice in his native town, where he met with great success. At the time of his election, he had just passed what is called the middle age of life, and

was engaged in a large and increasing business. Eminent as a surgeon, he was widely known not only in this province, but in Maine and New Hampshire, and was occupying a social and professional position that rarely falls to the lot of any man.

Dr. Holyoke continued to practise medicine in Salem for seventy-nine years; and it was said of him that there was not a dwelling-house in the town at which he had not visited professionally. During a long life he enjoyed almost uninterrupted health, which may be ascribed in part to his cheerful disposition and his continued exercise out-of-doors. He died March 31, 1829, having reached the advanced age of more than one hundred years. On the centennial anniversary of his birth, about fifty physicians of Boston and Salem gave him a public dinner, at which he appeared in remarkable spirits and vigor. He smoked his pipe at the table, and gave an appropriate toast to the Medical Society and its members.

It sometimes happens that a great discovery is nearly made, but the final step is not taken to accomplish it. Often there is a faint glimmer of a new truth, but yet not clear enough for distinct assertion. Such was the experience of Dr. Holyoke who almost anticipated the great discovery of Laennec. The following report of a case made by him was printed in the year 1793, though it was written probably long before that time:—

"A man about fifty-three or fifty-four years old, of a thin habit of body, labouring under a very bad cough, attended with a hectick fever, profuse sweats, &c. had a large tumour formed upon the upper part of the thorax on the left side, extending from the

shoulder all along the lower edge of the clavicle, to the *sternum*, about the breadth of a man's hand. This tumour had all the appearance of a large abscess; it was accordingly treated as such, and suppuration seemed to be coming on as usual; but on removing the dressings one day, I found the tumour (though the skin remained whole) less prominent to the eye, flabby to the touch, and the pain and inflammation abated. I was now at a loss what to make of the case, as the abscess seemed too far advanced to expect discussion. While I was thinking of the matter, the patient asked me 'what could occasion that blubbering noise (as he expressed himself) in the sore.' Upon which, applying my ear near the part where he perceived the noise, I plainly heard a whizzing, and as he termed it, a blubbering noise at every breath, exactly resembling such as arises from the rushing of air through a small orifice. This orifice appeared to be just under the left *clavicle*, but nearer to the shoulder than the *sternum*. Upon viewing the part attentively, a small dilation and contraction was perceptible upon expiration and inspiration; and the part was evidently puffy and flatulent to the touch. At this time the cough was urgent, and the expectoration very copious.

From this time, the tumour, inflammation, and hardness, subsided; the noise in breathing gradually lessened, till it ceased; and by the assistance of pectoral medicines, the bark, &c. the hectick and cough after a while left him; and with them the sweats, &c. his appetite returned, and he recovered his strength, though slowly; and is at this time in tolerable health." . . . . .
—("Memoirs of the American Academy of Arts and Sciences," vol. ii. part i. 189, 190.)

It was Dr. Holyoke's opinion that the abscess formed originally in the thoracic parietes, and afterward penetrated to the lung, which had become adherent to the walls of the chest at this part,—discharging itself through the bronchial tubes. The abscess having a communication with a cavity in the lung, the air would pass to and fro, during the act of breathing; "and this passing and repassing of the air," continues Dr. Holyoke, "will fully account for the noise which the patient complained of."

From the accompanying symptoms, such as emaciation, cough, and hectic fever, it seems prob-

able that this case was one of empyema, arising from pleuritic inflammation, in which the matter pointed outwardly, but before breaking through the skin burst into the lung, and was thereby discharged. The pathology of thoracic disease was not then understood as well as now; and it is not surprising that Dr. Holyoke should have thought that the abscess formed externally to the chest, and afterwards made its way into the lung. The report of this case contains more than a hint of the great fact which has rendered the name of a French physician illustrious in the annals of medicine.

The fourth meeting of the Society was held on July 18, 1783, when "The Com̃: appointed to agree upon a Device and Motto for a Seal, laid several Devices before the Society, particularly a Figure of Æsculapius in his proper habit pointing to a wounded Hart nipping the Herb proper for his Cure with this motto, 'vivere natura.'" The design was adopted, though the motto was changed to *naturâ duce;* and the same committee was authorized to procure a seal made after this device.

The fifth meeting was held on September 4, when it was voted, "That the Fellows of this Society be requested to transmit to the Recording Secretary an Account of those Diseases that have from one stated Meeting to another been most prevalent in the Circle of their practise, that the same may be laid before the Council for their Inspection and such communicated to the Society as the Council shall direct." Many such papers were then sent

in, which are now carefully preserved on the Society's files.

The sixth meeting was held on October 16, but no quorum was present.

The seventh meeting was held on April 9, 1783, when the committee on the Seal reported that they had procured one, which was laid before the Society and unanimously accepted. It was also voted that candidates for practice, who had passed a satisfactory examination by the Censors, should pay the sum of eight Spanish milled dollars. A circular letter was adopted to be sent to those members mentioned in the Act of Incorporation, who had not been present at any of the meetings. By the records it appears that there were eight such persons. The letter is as follows:—

Sir, The Fellows of the Mass: Medical Society, who have met from time to time for the purposes of their Appointment, have conceived themselves happy in your having been appointed one of its Fellows, and beg Leave to assure you, that your Comunications will at all times be highly acceptable; and that they are sincerely desirous of your Assistance in carrying on the Business of the Society, which in its Beginning calls for more particular Exertions, and requires the joint Efforts of all its members.

The Society has been so unfortunate as not in any way to be informed of the Determination of several Gentlemen, appointed by an Act of the General Court Fellows thereof, relative to their Acceptance of the Trust, for want of which information, the Society in the prosecution of its Business, has found itself embarrass'd and unable to make such Arrangements as might more fully tend to promote the Ends and Designs of the Institution, for which Reason we have address'd you on this Subject; not doubting of your benevolent Intentions & Readiness to promote an Undertaking, conducive as we hope to the Benefit of Mankind in general and the Medical Faculty in particular. We presume that your answer of acceptance will be forwarded by the first opp°.

With sentiments of Respect & Esteem,

We are &c

At the same meeting a Resolve was read, passed by the General Court March 20, on the petition of Cotton Tufts, granting the use of a room in the Manufactory House to the Massachusetts Medical Society, in connection with the American Academy of Arts and Sciences. The Manufactory House was a noted public building of that time, belonging to the State, and situated in Tremont Street, nearly opposite to the site of the Park Street Meeting-house. The room was fitted up conjointly by the two associations, and first used by the Medical Society on October 15, 1783. It was occupied by them for the stated meetings held on October 30, and April 14, 1784, and probably for other minor purposes. The meeting on June 2, as well as the one on July 21, took place in the County court-house, where all the former ones had been held, before the room in the Manufactory House was occupied. The meeting of April 13, 1785, was held in "the Stockholders' room in the Bank." The Massachusetts Bank, then the only bank in the State, was organized in the year 1784, at which time it bought the Manufactory House, sold by order of the General Court. The stockholders' room in this building was the apartment previously used by the Society. The meeting of May 4, 1785, took place in the Senate Chamber of the Old State House, and the one of October 19, 1785, was held in "Mr. Furnass's painting room in Court St.;" while that of October 18, 1786, was "in the hired room in Court Street,"—which may have been the same as Mr. Furnass's room. The meet-

ings of October 20, 1790, and April 13, 1791, were held in Concert Hall, a noted tavern at the southerly corner of Court and Hanover streets. I have been particular in giving some of the minor details of the Society's early history, in order to show its small beginnings and the changing places of its meetings. It is well sometimes to compare present opportunities with the narrow means of past generations.

The birth of the present Medical School in the year 1783 formed an epoch in the medical history of the State, though the Massachusetts Medical Society, as a corporate body, did not officiate on the occasion. At first the School was looked upon by the fellows with some jealousy, as they feared that the existence of two institutions would lead to serious embarrassments. The matter was considered of sufficient importance to be referred to a special committee of the Society, which, however, did not report for nearly three years. At the meeting held on October 15, 1783, it is recorded that—

"Upon a Recomendation of Council, to consider Whither the Doings of any of the literary Societies in this Comonwealth, interfere with the Charter Rights of the Medical Society;

"*Voted,* That a Com: of three be appointed to take into Consideration the above Recomendation, and to confer with any such Societies (upon the Subject, as they may think proper) and report:

"*Voted* That Dr. Cotton Tufts, Dr. Kneeland & Dr. Appleton be this Committee.

Nothing further relating to this subject appears to have been done, until the meeting on June 7, 1786, when—

"The Com: appointed on 15 Oct^{r}. 1783 to consider whither the Doings of any of the literary Societies in this Comonwealth interfere with the Charter Rights of this Society, & to confer with any such Societies upon the Subject as they might think proper, reported, That they had attended the business of their appointment and upon examining the Medical Institutions of Harvard College, the Com: were of Opinion that those Institutions did interfere with the Charter-Right of this Society 'to examine Candidates for the practise of Physic & Surgery & to grant Letters testimonial of the Examination of such as shall be found skilled in their profession' in that, those Institutions provided for the Medical professors of that College examining their Pupils & granting Letters testimonial or public Certificates, to such of them as they judged proper, of their Abilities to practise Physic. Whereupon the Com: applied to the Government of the College for a Conference upon the Subject, which was had, & ended in an agreement that the Com: should confer with the Medical professors of the College & make such arrangements respecting this matter as should be mutually agreed upon for the Honor of both Societies & the advancement of Medical Knowledge. This Conference between those Medical professors & the Com: for some reasons, unknown to the Com: was never held. The Com: further report that it has lately been suggested to them that the Medical Institutions of Harv: College have been altered, whereupon Enquiry was made respecting the Matter and an Acc^{o} of the above Institutions authenticated by the Secr^{y} of the Overseers, was procured, and upon a careful examination the Com: were clearly & unanimously of Opinion that Harvard College Medical Institutions do not, and that no Doings of that or of any other literary Society do, as far as the Com: could find, interfere with the Charter Rights of this Society."

At this time there were but three professors in the Medical School; and two of these were original members of the Medical Society. It was, therefore, extremely improbable that there would be any permanent friction between the two bodies. The Medical Society had no right to confer degrees; and it does not appear that the Medical School had any intention of granting testimonial letters to the profession at large. What then bid fair to be a little tempest soon subsided.

The American Revolution had opened a new field for medical investigations, and the establishment of military hospitals furnished increased facilities for the study of practical anatomy. The opportunities for dissection were frequent, and the young and enthusiastic students of medicine were not slow to avail themselves of these advantages. Dr. John Warren had been appointed superintending surgeon of the military hospital in Boston; and his zeal for anatomical and surgical studies soon prompted him to utilize some of the bodies of soldiers who had died, without friends to claim for them the last rites of burial. To this end, in the winter of 1780, he began a course of demonstrations at the hospital, situated at the west end of the town, near the site of the Massachusetts General Hospital; and this course of lectures was the forerunner of those now given at the Harvard Medical School. These demonstrations were carried on with great secrecy, and attended only by a few physicians and medical students. During the next winter another course was given, which was more public; and these two courses laid the foundation of the present Harvard School. Dr. Warren was encouraged in the undertaking by the help he received from the Boston Medical Society, an association organized about that time to pursue anatomical studies. The School began operations in the year 1783; and Dr. Warren was chosen, most naturally, to fill the professorship of anatomy and surgery. At first the lectures were delivered at Cambridge, and were attended not only by the

medical students, but by the senior class of the college. Subsequently the whole course of instruction was given in Boston, where there were better opportunities for clinical practice and surgical operations. This change took place in the autumn of 1810, though it had in part been brought about during the preceding year. The removal was followed immediately by a large increase in the number of students.

Dr. Warren held the position from his election November 22, 1782, until his death, which took place April 4, 1815. He was succeeded by his son, Dr. John Collins Warren, who held the place until the year 1847, when he was followed by Dr. Oliver Wendell Holmes. It is not a little remarkable that during a period of nearly a century this chair has had but three occupants; and I doubt whether a similar term of service by three successive professors can be found in any other college of the country. Dr. John Warren, who was the younger brother of Dr. Joseph Warren, the Revolutionary General, is the ancestor of a long line of eminent physicians. He was followed in the profession by his son, Dr. John Collins Warren, the father of the late Dr. Jonathan Mason Warren, a distinguished surgeon, whose memory I revere as that of a faithful preceptor. It is with feelings akin to pride that I mention him on this occasion as my instructor when a medical student, as his father before him had been of my father. The representative of the Warren family, in the fourth generation, can stand on his own merits without

any help from the name; and to-morrow he will speak for himself before this Society, as the orator of the day.

In the early period of its history, the School was not known by its present name, but was called the Medical Institution of Harvard College; though somewhat later it is spoken of as the Medical School of Harvard College or of Harvard University. Occasionally it is mentioned in the newspapers as the Boston Medical School; and after its removal from Cambridge, it is sometimes called the Massachusetts Medical College, the name given to the building erected in Mason Street, for the use of the School. An engraving of this structure may be found in "The New England Journal of Medicine and Surgery," for April, 1816. It is only in recent times, perhaps within twenty-five years, that the institution has been called the Harvard Medical School. This name has grown up gradually, and now we seldom or never hear any other given to it.

The Berkshire Medical Institution may be noticed in this place. It was established at Pittsfield, in the year 1822, in connection with Williams College, though fifteen years later it became independent of it. It filled an important position in the medical history of the State, and was always in close affiliation with this Society. At one time it had a large number of students; but owing to a diversity of causes its prosperity was checked, and it was given up as a medical school in the year 1868. By an Act of the Legislature,

passed May 22, 1869, the corporation was dissolved.

At the meeting held October 26, 1785, corresponding and advising committees were appointed for the different counties of the State, in order to encourage reports of professional cases to this Society; and many years later, on April 28, 1803, it was voted—

"That the Commonwealth be divided into 4 Districts, the Middle, Southern, Eastern, & Western; the Middle to consist of Suffolk, Norfolk, Essex, & Middlesex; the Southern of Plymouth, Bristol, Barnstable, Dukes County, and Nantucket; the Eastern district [to consist] of Maine; the Western [of] Hampshire, Berkshire, and Worcester."

Immediately afterward committees were appointed for each of these districts, "to ascertain who are deserving of becoming Fellows." These organizations have since grown and become the present District Societies. At the beginning of this century, Hampshire County included the present ones of Franklin and Hampden.

At the meeting held on November 8, 1786, the Council of the Society was requested to consider the propriety of addressing the Legislature that some measures might be taken to prevent the sale of bad and adulterated medicines, and to report thereon.

In the spring of 1790, the first number of a publication entitled "Medical Papers" was prepared under the direction of the Society, and five hundred copies printed; but, for the want of funds, the second number did not appear until the year 1806. The third number was printed in 1808,

which completed the first volume of the series now known as the "Medical Communications of the Massachusetts Medical Society." It is made up almost entirely of papers written by the members, giving the result of their observations on diseases and epidemics in their respective neighborhoods. The address of Dr. Isaac Rand, delivered June 6, 1804, is usually bound in this volume. Its subject is "Observations on Phthisis Pulmonalis"; and it is the first one of the long series of annual addresses made before the Society. This pamphlet became so rare that, by a vote of the Councillors, it was reprinted in the year 1853. It was published in exact *fac-simile*, under the careful supervision of the late Dr. Nathaniel Bradstreet Shurtleff. The "Medical Communications" have been continued until now, when they comprise a work of twelve volumes. One number of the "Communications" appears each year, and five or six of them make up a volume; the later numbers consisting of the annual addresses, proceedings of the meetings, and other papers.

A Pharmacopœia, prepared by Drs. James Jackson and John Collins Warren, was published in the year 1808, under the auspices of the Society. It was formed on the plan of the Pharmacopœia of the Edinburgh College, and was designed to introduce modern nomenclature, and to establish greater uniformity in the prescriptions of physicians. "The American New Dispensatory," written by Dr. James Thacher, and published in the year 1810, was submitted to a committee of this

Society, and received its official sanction. The basis of this work was the Pharmacopœia which has just been mentioned. The "Library of Practical Medicine"—a series of twenty-five volumes, mainly reprints of English works—was also published for the use of the fellows. It began in the year 1831, and was continued until 1868.

"The Publications of the Massachusetts Medical Society," technically so called, were begun in the year 1860, and kept up until 1871. They consist of three volumes, comprising, for the most part, essays and reports read at the meetings, and subsequently published. Papers of this character are now printed in the "Communications," and do not appear in any separate serial.

It may not be inappropriate to mention in this place "The New England Journal of Medicine and Surgery," which was published quarterly in Boston. While it was not an official organ, it was "conducted by a number of physicians," in the warmest interest of this Society. It was edited with much ability, and contained many original papers. It began in the year 1812, and was kept up until 1828, when it was followed by "The Boston Medical and Surgical Journal," a publication which has continued till the present time.

The protective power of vaccination was discovered in England by Edward Jenner, near the end of the last century; and the news of its discovery was soon brought to this country. Among the first persons here, and perhaps the first whose critical attention was called to its im-

portance, was Dr. Benjamin Waterhouse, of Cambridge, an early fellow of this Society. Its introduction, like that of variolous inoculation, was destined to meet with many difficulties and obstacles; and Dr. Waterhouse was to be the champion. He wrote much as an advocate of the cause; and in spite of popular ridicule and prejudice he succeeded in carrying the day. A communication, signed with his initials and dated at Cambridge, March 12, is found in the "Columbian Centinel" of March 16, 1799. It is headed "*Something curious in the* MEDICAL LINE," and is the first account of vaccination that was given to the public in this country. In the article Dr. Waterhouse describes cow-pox, and says that it must not be confounded with another disorder, incident to the human race, which bears a somewhat similar name. He printed the account in a newspaper in order to excite "the attention of our dairy farmers to such a distemper among their cows," and to inform the profession generally of this security against small-pox.

In the year 1800 he published a tract entitled "A Prospect of exterminating the Small-pox; being the history of the Variola Vaccina or Kine-pox," &c.; and in it he describes the method he used, July 8, 1800, in vaccinating his son, Daniel Oliver Waterhouse, a lad five years of age, who had this disease in a mild way. From the arm of this boy he vaccinated another son, three years old, who had the customary symptoms in a light form; and subsequently he "inoculated a servant boy of about 12 years of age, with some of the

infected thread from England." This expression furnishes the clew to the method adopted for obtaining the vaccine virus, which came "by a short passage from Bristol," England; though in the autumn of 1802, Dr. Waterhouse speaks of receiving quill-points, or "tooth-picks," charged with virus. Before he had finished the practice in his own family, he had vaccinated four of his children and three of his servants, with no serious symptoms or consequences. The faith he had in the efficacy of the operation, prompting him to try it on one of his own children, was of that living kind which always commands attention. In this matter we are reminded of Dr. Boylston's bold act in inoculating his son for small-pox.

In the year 1802 Dr. Waterhouse published a work of one hundred and thirty-four pages, which formed Part II. of the previously mentioned tract; and in it he gives a full account of the new inoculation in America. In all his efforts to introduce vaccination, Dr. Waterhouse was warmly seconded by Dr. William Aspinwall, of Brookline, who deserves no small meed of praise in this matter. Dr. Aspinwall had paid much attention to variolous inoculation; and after the death of Dr. Boylston, the first American inoculator in point of time, he erected small-pox hospitals in Brookline, where he treated a large number of patients for the disease, which had been artificially induced. No man in America, probably, ever inoculated so many persons, or enjoyed so wide a reputation for his skill in so doing, as Dr. Aspinwall.

Massachusetts was the first colony to introduce small-pox inoculation, and she was also the first State to adopt kine-pox vaccination; and her towns have always taken the lead in sanitary matters. During the summer and autumn of 1802 some interesting experiments were conducted under the direction of the Boston Board of Health, whose unremitting exertions at that time, to prevent contagious disease, entitle them to the highest praise. The Board fitted up a hospital on Noddle's Island, now known as East Boston, and invited a number of physicians to co-operate with them in an undertaking to diffuse knowledge and dispel prejudice in regard to vaccination. Some bold experiments were tried at this hospital, which fortunately were highly successful. On August 16, 1802, nineteen boys were vaccinated, and all passed through the regular stages of the cow-pox; and on November 9, twelve of these children, together with a son of Dr. Bartlett, who had previously had the cow-pox, were inoculated for the small-pox, with matter taken from a patient in the most infectious state of the disease, and no trouble whatever followed. In order to show the true variolous character of the virus used in this experiment, two lads were inoculated at the same time with the same matter; and in due time a severe eruptive fever followed, with a plenteous crop of variolous pustules. When these two cases were in the right stage, matter was taken from them and inserted, for a second time, in the arms

of the twelve children who had been previously inoculated, and besides in the arms of the other seven boys who were absent at the first inoculation. They had, moreover, been exposed to infection, most of them for twenty days, by being in the same room with the two lads who had the small-pox; and all nineteen escaped. These and other facts are given in a report which was made and signed by eleven physicians,—James Lloyd and Benjamin Waterhouse appearing at the head of the list. A full and official account of the whole affair is found in the "Columbian Centinel," December 18, 1802.

The town of Milton was the first to act in its corporate capacity, and extend the benefits of vaccination to its citizens. In the year 1809, three hundred and thirty-seven persons of various ages and conditions among its inhabitants were vaccinated; twelve of them were afterward tested by inoculation for small-pox, and found fully protected. The test was conducted by Dr. Amos Holbrook, a fellow of this Society; and the twelve persons—eight boys and four girls—were volunteers for the operation. The town acted during the whole affair in a most liberal and intelligent spirit, and published a valuable pamphlet, setting forth all the transactions concerning it. It was entitled "A Collection of Papers relative to the Transactions of the Town of Milton, in the State of Massachusetts, to promote a General Inoculation of the Cow Pox, or Kine Pox, as a never failing preventive against Small Pox Infection;" and a

copy was sent to the selectmen of each town in the Commonwealth.

About this time a similar plan of public vaccination was adopted at New Bedford. By an Act of the General Court, passed March 6, 1810, the towns throughout the State were directed to appoint committees to superintend the matter, and authorized to defray the expenses of a general system of vaccination. The motive power of all these proceedings was furnished by the Massachusetts Medical Society, though it was not always apparent.

By the Act of Incorporation the membership of the Society was limited to seventy persons; but on March 8, 1803, an additional Act was passed by the General Court, which removed all limitation, and made many changes in other respects. Since then the number of fellows has been steadily increasing; and at the present time every town in the State, with the exception of a few small ones, is represented among the members.

In the winter of 1811, an effort was made to obtain from the General Court a charter for another medical society, to be called the Massachusetts College of Physicians. The movement was strenuously opposed, as might have been expected, by the Massachusetts Medical Society; and a long controversy was the result. There had not been so much personal and professional feeling excited among the physicians of the State, since the introduction of small-pox inoculation, ninety years before this time.

The following petition to the Legislature was received by that body on February 12, 1811, and referred by them six days afterward to the next General Court:—

To the Honourable the Senate, and the Honourable the House of Representatives, in General Court assembled, this petition most respectfully sheweth:—

That seeing health is a blessing, which sweetens all our enjoyments; and long life that which all men naturally desire, so every thing that tendeth to secure the one or leadeth to the other, is an object worthy the attention of this Legislature.

And considering, moreover, that of the various methods of obtaining and diffusing medical knowledge, not one is found so effectual and desirable as a friendly and liberal intercourse and honourable associations of its professors; more especially when their end and aim is mutual improvement and the publick good; and experience has proved that two literary and scientific societies produce more than double the advantage of one —

Influenced by these sentiments, we your petitioners humbly pray the Honourable the Legislature to constitute us, and such as may hereafter associate with us, a body politic and corporate, by the name and title of the Massachusetts College of Physicians; with such powers, privileges and immunities, as other medical associations of the like nature and views enjoy, under the same denomination, in several states of the union.

And your petitioners shall, as in duty bound, ever pray.

Thomas Williams.	James Mann.
Samuel Danforth.	Charles Winship.
Marshall Spring.	Abijah Draper.
Nath. Ames.	James Lovell.
William Aspinwall.	Jacob Gates.
John Jeffries.	William Ingalls.

At the annual meeting of the Medical Society, held June 5, 1811, a committee, which had been appointed "to prepare a memorial to the General Court respecting a petition for the incorporation of a college of physicians," presented the following remonstrance. It was adopted almost unanimously, one member only out of seventy-two dissenting.

To the Honourable the Senate and the House of Representatives of the Commonwealth of Massachusetts.

The Massachusetts Medical Society, in consequence of an application to the General Court in February last, for the incorporation of a College of Physicians, beg leave respectfully to represent,

That the said Massachusetts Medical Society was established in November, 1781, with power to elect officers, examine and licence candidates for practice, hold estate, and perpetuate its existence as a body corporate. In June, 1782, the society was organized agreeably to the provisions of the statute, and the members directed in every way to extend and increase its usefulness. By an additional act of the General Court in February, 1789, authority was given to point out and describe such a mode of medical instruction as might be deemed requisite for candidates previous to examination; which important duty has been constantly attended to, and occasionally revised. By a farther additional act in March, 1803, as the society was thought too limited to answer the purposes of its establishment, its state was so essentially changed, that the number of its fellows originally limited to seventy, may embrace all respectable physicians and surgeons resident in the state; and that district societies may be established in such places as will facilitate medical improvement, and prevent the inconvenience of applying in all cases to the censors in Boston for an examination.

In consequence of this provision, several district societies are formed, and are in a prosperous condition, cultivating medical science, and qualifying candidates, in various parts of the commonwealth. It has been the constant endeavour of the society, without reference to local or political considerations, to admit the most respectable practitioners in every section of the state, and they are desirous to elect all others of known talents who, by accident or from any other cause, are not admitted.

The number of candidates licensed for practice by the society is more than eighty, all of whom, as well as all bachelors of medicine in Harvard University, may claim admission as fellows of the society, after three years practice.

The present number of fellows exceeds two hundred. Publications of important cases communicated to the society; of a Pharmacopæia, which is now in general use; and of Dissertations read at the meetings, have been made, as often as the funds would possibly admit; committees have been appointed to investigate the nature, causes and cure of epidemics, and the result of their inquiries communicated to the publick. The greatest harmony has distinguished their proceedings. No mention was ever made, as has been insinuated, of regulating fees in practice. The sole object of the society has been to promote the design of its institution, and the fellows have been led to believe by the constant patronage and

support of the Legislature, as well as the publick voice, that their conduct has been approved.

It is scarcely necessary to remark, that, from the state of medical science, at the incorporation of the society, its progress, for several years, was slow, and that it was less useful than could have been wished; but by the aid and co-operation of the flourishing medical school at the University, it is at this time in a most prosperous state; and it is the united endeavour of all to promote medical instruction, and discourage unworthy practices.

It is found on examination that the petition on the files of the General Court, for a College of Physicians, is for similar powers and privileges with this society, on the ground, that "two literary and scientific societies, would produce more than double the advantages of one."—The society presume not to dictate to the Legislature on this important subject; but they beg leave respectfully to offer an opinion, that the establishment of such an institution can effect no object, not accomplished by existing societies, and would be so far from promoting a laudable and useful emulation, that candidates rejected by one society would resort to the other, with the greatest hopes of success, whatever might be their qualifications for the proper exercise of their profession. Hence would arise disagreements and animosities, which in other parts of the United States (particularly in Philadelphia at a former period, and very recently at New-York) have been injurious to the profession and to the publick. Such animosities were threatened in the infancy of this establishment, by a supposed interference of Harvard College, with the rights of the Society, and would have produced the most unhappy effects, but for the repeal of an exceptionable article in that establishment, and the accommodating conduct of those who at that period were the guardians of science, and the patrons of the healing art.

From these considerations, and from other circumstances which the Medical Society are prepared to state, they have thought it an incumbent duty to request that the prayer of the said petition should not be granted, and they as in duty bound will ever pray.

In behalf of the Society,

JOHN WARREN, President.

Boston, June 5, 1811.

On June 14, 1811, both the petition and remonstrance were presented at the same time to the Legislature, and they were referred to a joint committee of the Senate and House. After certain formalities final action in regard to them was

deferred until the second session of the General Court, which was to meet on January 8, 1812. During this interval communications appeared in the newspapers, and pamphlets were printed, setting forth the views of the writers on each side of the question. At one time it seemed as if the petitioners would be successful in their efforts, but finally they were defeated.

The speech of Governor Gerry, at the opening of the session, contained the following remarks:—

"Many Institutions in this Commonwealth which have promised great benefit to the public, would have met with much more success, had similar Corporations been established. When only one of any kind is permitted, it too frequently happens, that a majority of individuals composing it, indulge their private views and interests, to the exclusion of men, of the most enlarged, liberal, and informed minds; and thus destroy the reputation and usefulness of the society itself. The multiplication of such institutions, has a tendency, not only to prevent this *evil,* which is an *opiate to genius,* but to produce a competition, and to promote in the highest degree the utility of such establishments." — ("Columbian Centinel," January 15, 1812.)

An attempt had been made, before the Legislature met, to mingle politics with the question and render it a party one. It will be seen, by the extract given above, that the Governor threw his influence on the side of the petitioners.

In the early part of February, 1812, the committee of the Legislature gave a hearing in regard to the matter, in the Senate Chamber, which was filled at the time with spectators. Drs. James Mann, William Ingalls, Abijah Draper and Joseph Lovell appeared in order to support the petition; and Drs. David Townsend, John Warren, Thomas Welsh, Aaron Dexter, Josiah Bartlett, William

Spooner, and Benjamin Shurtleff, as a committee of the Medical Society, to defend the remonstrance. The petition was advocated also by Dr. Benjamin Waterhouse, Professor of Theory and Practice of Physic, — he and Drs. Leonard Jarvis, Edward Whitaker, Daniel Thurber, and Nathaniel S. Prentiss, having added their names to the document. This brought out a reply from Dr. James Jackson, who was, shortly afterward, Dr. Waterhouse's successor, in behalf of the medical institution at Cambridge, as it was generally understood that a new school would be connected with the proposed establishment.

On the next day the committtee reported, by a bare majority, so far in favor of the petitioners that they should have leave to bring in a bill, which report was accepted by the Senate. The proceedings of the House in regard to it, on February 13, 1812, are found in the "Columbian Centinel," February 15, and are as follows:—

"The report of a joint Committee which had given leave for the introduction of a bill to incorporate a *College of Physicians*, and which report had been accepted in the Senate, was taken up in the House yesterday, when the House non concurred the vote of the Senate; and refused leave to bring in a bill.

"This day, Mr. CANNON, moved to reconsider the vote of yesterday. This motion, which involved all the merits of the question, was advocated by the mover, Messrs. MARTIN of *Marblehead*, AUSTIN of *Charlestown*, GREEN of *Berwick*, and others; and opposed by Messrs. CHILDS, of *Pittsfield*, Mr. KITTRIDGE, Messrs. FOSTER, FAY, RUSSELL, DAVIS, and others, and was negatived. For it, 195. Against, 211. The debate on this subject was animated and interesting, and lasted three hours. The gentlemen of the Committee which reported the leave stated, that in the examinations before them, they found nothing to support nor justify the numerous insinuations and reports which had been circulated in print and in out-door conversation, tending to implicate and injure

the existing *Medical Society;* but that the Society has stood, and now stands, on high ground for usefulness, impartiality and respectability. It was clearly demonstrated—though attempts were made out doors to make it a party question—that the institution asked for, is unnecessary, and that if granted would produce great dissensions among the faculty, and be highly injurious to the community."

Thus happily ended one of those unpleasant controversies which never lead to good results. The petition for the Massachusetts College of Physicians, as well as the remonstrance against it, are found in Dr. Bartlett's address delivered at the annual meeting of this Society, June 6, 1810, which was published "with alterations and additions to January 1, 1813," in the first volume, second series, of the Massachusetts Historical Collections. This edition of the address contains ten pages of matter more than the one printed in the second volume of the Medical Communications.

At the beginning of the present century, Massachusetts had no hospital for the treatment of general disease, though there were such institutions in the States of New York and Pennsylvania. During many years before this time, there were various indications in the community that the want of such an establishment was beginning to be felt; and in the summer of 1810, strenuous efforts were made to supply the want, which proved successful. The prime movers of the undertaking were so closely identified with this Society that, in any narration of its history, the Massachusetts General Hospital ought to be mentioned. A circular letter, dated August 20, 1810, was prepared by Dr. James Jackson and Dr. John Collins Warren, and

addressed to some of the most influential citizens of Boston and its neighborhood, for the purpose of awakening in their minds an interest in the subject. It was the opinion of Mr. Bowditch, as recorded in his "History of the Massachusetts General Hospital," that this circular-letter might be regarded as the corner-stone of the institution. The two writers of it were subsequently presidents of this society.

Dr. James Jackson, the first signer, is perhaps the most conspicuous character in the medical annals of Massachusetts. I doubt whether any physician in the State ever exerted so large and lasting an influence over his professional brethren or his patients. Born in Newburyport, October 3, 1777; graduated at Harvard College in the class of 1796; he studied his profession under the venerable Dr. Holyoke, of Salem. In the year 1812 he was appointed to the Hersey professorship of the Theory and Practice of Medicine, which he continued to hold until 1836. At this time he gave up the active duties of the office, and was chosen Professor *Emeritus*. His writings are numerous, and all his publications show great wisdom as well as literary culture. During a period of more than half a century, he was a frequent contributor to the pages of "The New-England Journal of Medicine and Surgery," and of "The Boston Medical and Surgical Journal." His death took place on August 27, 1867.

A charter for a hospital was granted by the Legislature, February 25, 1811, containing a liber-

al gift made on the condition that $100,000 more should be subscribed by individuals. Besides giving the Province House, the official residence of the provincial Governors, for this object, the State helped along the matter in various ways. By a special Resolve it was provided that the stone for the building should be hammered by the convicts in the State Prison at Charlestown. The work thus done is estimated at more than $30,000. The institution was opened in the autumn of 1821; though the McLean Asylum for the treatment of the Insane, under the same board of managers, was in operation several years before this time.

The Massachusetts General Hospital is the oldest institution of its kind in New England, and for the high professional character of its officers, and for its efficient management is second to none in the country. The community owes a deep debt of gratitude not only to the whole-souled men who endowed the hospital with their means, but also to the accomplished physicians and surgeons who devoted their time and thought to the common object. From the outset its growth has been steady and sure; and it stands to-day an abiding monument to the noble purposes of the men of science, as well as the men of wealth, who established it.

Two of the Governors of Massachusetts, John Brooks and William Eustis, were physicians, and both early fellows of this Society. They each had served throughout the Revolution, and rendered important services to their country, the one as a field officer and the other as a surgeon. In after-

life both of them occupying political positions of usefulness and importance, they enjoyed at the same time a wide professional influence. I do not forget that the second office in the gift of the people of this Commonwealth has been filled by three members of this learned association. David Cobb, an officer of the Revolution, and subsequently a judge, who told the mob at Taunton, during the Shays rebellion, that he would sit as a judge or die as a general; Henry Halsey Childs, and Elisha Huntington,— all these have been Lieutenant-Governors of the State.

The first American seaman treated by the United States Government was cared for in Boston Harbor by Dr. Thomas Welsh, a charter member of this Society. The first United States Marine Hospital was built at Charlestown in the year 1803, and its first physician was Dr. Charles Jarvis, another charter member. The first enactment in this country legalizing the study of practical anatomy was passed February 28, 1831, by the General Court of this Commonwealth. For a long time Massachusetts was the only State in the Union, where a liberal law threw its protection over this important branch of study; and it was brought about entirely by fellows of the Medical Society.

The greatest boon to the human race, since the invention of printing, has been, unquestionably, the discovery of the anæsthetic properties of sulphuric ether: all Christendom owes a debt of lasting gratitude for the knowledge of this incalculable blessing. Scarcely a generation has passed

since the great fact was demonstrated at the Massachusetts General Hospital in Boston, that the acutest sensations of physical suffering under the surgeon's knife, by this discovery may be changed into the innocent dreams of the weary sleeper. By means of it the young wife awakens from her slumbers, and finds that unconsciously she is a mother. Through its power, life has been saved and pain prevented; and it is due to the memory of the discoverer that on this occasion we should recognize his claims as a public benefactor. The surgeons of the Hospital, all members of this Society, stood sponsors to the great discovery; and by their prudent and judicious action hastened the day when the use of ether, as an anæsthetic agent, has become well-nigh universal. Mr. Bowditch, in his History of the institution, gives a full account of the introduction of its use, together with a detailed statement of the controversy connected with it.

There have been so many distinguished fellows of the Massachusetts Medical Society, worthy to be mentioned on this occasion, that I find it difficult to discriminate; and I pass them over in silence. Their names are so conspicuous that they will readily suggest themselves; but I should be doing an injustice to my own feelings, if I did not publicly recognize the labors which the late Dr. George Derby rendered to the military service of his country, as well as to the cause of sanitary science in his native State. As his army comrade through several campaigns, I have a right to speak

of him as a man and a surgeon, in the warmest terms which friendship can prompt. And for the same reasons I cannot withhold a tribute to the memory of the late Dr. George Alexander Otis, of Springfield, who left the State as Surgeon of the 27th Massachusetts Volunteers; though he afterward received a commission as surgeon in the regular army, where he remained until his death, February 23, 1881. His contributions to "The Medical and Surgical History of the War of the Rebellion" have placed him among the prominent writers of the profession.

In the late War for the Union, the members of the medical profession not alone of Massachusetts, but of the whole country, North and South, Federal and Confederate, Blue and Grey, performed such noble services in the cause of humanity that I am constrained to refer to them in this address. During a long service I am proud to say that I have never known an instance where a sick or wounded soldier, friend or foe, did not receive from the surgeon the best professional skill available at the time, whether on the one side or the other of the contending armies. In the presence of pain and suffering all hostility was buried. Only those surgeons who have served in the field are aware of the hardships in the treatment of medical and surgical cases during a campaign. I do not allude now to personal privations or inconveniences which are shared nearly alike by all, but I refer to the want of many things considered necessary in civil life for the care of the sick, and always es-

sential to their comfort. There are physicians in this audience who have been called upon to treat, during the bad weather of an inclement season, miles away from any hospital, soldiers lying on the ground and suffering with all the symptoms of acute disease. There are those here present who have been obliged to perform severe operations of surgery, in the dark hours of the night, under the broad canopy of the open heavens, by the faint glimmer of smoky candles and dingy lanterns, on an extemporized table, or perhaps with no table at all.

The names cut on the marble tablets in the adjoining hall bear witness to the patriotism of many a member of this Society, who sealed by death his devotion to the country. In common with all classes and callings the physicians of the loyal States hastened to the rescue when the National Government was threatened, and proffered their professional services. The value of the medical literature, growing out of these services, is acknowledged throughout the civilized world.

The following medical officers from this State were slain in action, while in the line of their duty: —Samuel Foster Haven, Jr., Surgeon 15th Massachusetts Volunteers, was killed at Fredericksburg, Virginia, December 13, 1862; Albert Asaph Kendall, Assistant-surgeon 12th Massachusetts Volunteers, and Edward Hutchinson Robbins Revere, Assistant-surgeon 20th Massachusetts Volunteers, both were killed at the battle of Antietam, Maryland, September 17, 1862; Franklin Lambert Hunt, Assistant-surgeon 27th Massachusetts Volunteers,

shot down by *guerrillas* in ambush, near Washington, North Carolina, November 18, 1862; and John Edward Hill, Assistant-surgeon 19th Massachusetts Volunteers, died in the hospital at Georgetown, D. C., September 11, 1862, of wounds received a short time previously.

The following medical officers in Massachusetts regiments died, during their term of service, from disease contracted while in the army:—Neil K Gunn, Assistant-surgeon 1st Massachusetts Volunteers, June 2, 1863, at Falmouth, Virginia; William Henry Heath, Surgeon, July 24, 1862, at Chattanooga, Tennessee, and James Wightman, Assistant-surgeon, June 15, 1863, at Acquia Landing, Virginia, both of the 2d Massachusetts Volunteers; William Webster Claflin, Assistant-surgeon 13th Massachusetts Volunteers, July 25, 1864, at Hudson, in this State; Eben Kimball Sanborn, Surgeon 31st Massachusetts Volunteers, April 23, 1862, at Ship Island, Mississippi; Ariel Ivers Cummings, Surgeon 42d Massachusetts Volunteer Militia, September 9, 1863, at Hempstead, Texas; Robert Ware, Surgeon 44th Massachusetts Volunteer Militia, April 10, 1863, at Newbern, North Carolina; Nathaniel Wells French, Assistant-surgeon 50th Massachusetts Volunteer Militia, April 21, 1863, at Baton Rouge, Louisiana; and Dixi Crosby Hoyt, Assistant-surgeon 2d Regiment Heavy Artillery, November 1, 1864, at Newbern, North Carolina.

Dr. Luther V Bell, a distinguished fellow of this Society, died February 11, 1862, in his tent at

Camp Baker, two miles from Budd's Ferry, Maryland, while holding a medical commission from the United States. Dr. Lucius Manlius Sargent, Jr., who entered the military service of his country as Surgeon of the 2d Massachusetts Volunteers, was killed in the Virginia campaign, December 9, 1864, while leading a charge of the 1st Massachusetts Cavalry, of which regiment he was the Lieutenant-colonel. He was a skilful surgeon as well as an intrepid officer; in his death the Society lost a valuable member, and the State a gallant soldier.

I might mention other physicians, fellows of this Society, who since the war have died from disease contracted while in the army. They are as much the victims of their patriotic service, as if they had been killed in the heat of battle. My friend and classmate, Dr. Anson Parker Hooker, Surgeon of the 26th Massachusetts Volunteers, and subsequently the Assistant Surgeon-general of the Commonwealth, died, December 31, 1873, from the effects of malaria received while with his regiment. Dr. Jonah Franklin Dyer, Surgeon of the 19th Massachusetts Volunteers, died at Gloucester, February 9, 1879; and he is another fellow of this Society who, from disease contracted in the service, laid down his life for his country, years after the war was over, as truly as if he had died in camp.

The Massachusetts Medical Society is now the oldest state organization in the country, of a similar character, that has held its meetings continuously and regularly from the date of its incor-

poration. Since its foundation it has borne on its rolls the names of 3,700 persons; and to-day its membership includes 1,350 physicians coming from all parts of the Commonwealth. These members represent every section of the State, and their influence on one another is as immense as it is incalculable. The average attendance at the annual meetings of late years is not far from 750 members; these meetings last through two days, and with few exceptions have been held in Boston.

The charter of the New Jersey Medical Society antedates that of this Society by some years, but there have been breaks in its regular line of descent. During the Revolution there was a suspension of its meetings from the year 1775 to 1781, which was due to the interruption of the war; and then again from the year 1795 to 1807, this time owing to a general anæmic condition of interest, on the part of its members.

We now stand on the dividing line between two centuries,—the one that is passed, and the other just beginning,—and we can look forward only so far as the light of the past illumines the vision. We see enough, however, to know that new ideas in the profession will be established, and new methods adopted. The physician of the coming period will have a broader knowledge of preventive medicine. The laws of infection and contagion will be better known, and the daily conditions of health and disease more thoroughly understood. The subtle connection between cause and effect will be more accurately defined; and what is now

obscure will be made clear. The great fact is to be emphasized that everything in this life is related to what has gone before, and that we are what we are in consequence of antecedent circumstances. We may approach even to the curtain which nature drops over all vital action, but there we must stop; though in other directions the finger of Discovery points down endless paths for investigation. Yet with all the knowledge that the human intellect can master, the great problem of living organism will be as far from solution as it is to-day. Groping in the dark in respect to first causes, we must confess that life is an impenetrable mystery,—that it is something more than chemical action, and something beyond protoplastic development. For our purpose it is enough to know that the science of medicine will continue to the last point of measured duration; and, like a planet plunging on through the immensity of space, in its untiring and unending course, it will shed its rays of light and consolation wherever atoms of humanity are found.

CORRECTION,—page 573, line 6.

For the last sentence of the first paragraph, *read:* "Hoar was the first president who was a graduate of the institution, but Rogers was an earlier graduate who became president afterward."

APPENDIX.

THE following letter,—written by a distinguished scholar, whose knowledge of the native dialects of the country is unsurpassed,—has an important bearing on the diagnosis of the disease, mentioned in page 552 of the preceding Address. It furnishes, from a philological stand-point, an interesting contribution to the discussion of the subject.

Hartford, June 25, 1881.

MY DEAR DR. GREEN:

Thanks for a copy of your capital Centennial Address,—which I have just now finished reading, with much interest.

I see that you incline to the belief that the "prodigious pestilence" which made room for the Pilgrims at Plymouth, was the small-pox, and not the yellow-fever. I have not a copy of Winslow's "Good Newes" within reach this evening, and I do not recollect his statement that you cite, that the same disease prevailed as late as November, 1622. This statement may be conclusive against yellow-fever. Roger Williams, in "Key," ch. xxxi. shows, however, that the Indians had distinct names for the "great plague" and "the [small] pox." I have indicated, in my edition of the Key, p. 211, the composition of the name for the "plague," which agrees exactly with the description of it that the Indians gave to Gookin. "*Wesauashaûi,*" which Williams translates, "He hath the plague," literally signifies "he is *badly* yellow," and the name for the disease itself, *wesauashaûonck,* is "a bad yellowing" or "being badly yellow." I am not quite certain of the signification of the Indian name for the small-pox, *Mamaskishaûonck,* but this name is still in use—under various dialectic variations—by several, perhaps by all Algonkin tribes. For the Narraganset ***mamaskishaûi*** "he has the small-pox," the Chippeways have

omamakisi, and for the name of the disease, *mamakisi-win.* (The *toad,* by the way, is named by the Chippeways, *omakiki,* probably from his warty skin.) In the western Cree, the verb becomes *omiki-u,* and the noun, *omikiwin,*—which is used as a name for *Psora,* as well as for the small-pox, and also enters into the composition of the name of *leprosy,* and is nearly related to the names for *measles* and *scarlatina.* In the western dialects, the derivation of these names seems plainly enough to be from a root denoting *redness;* and if so, the Narraganset (and Massachusetts) name for the small-pox must have been derived from that of some earlier-known disease, which signified "redness of skin" or "eruption" *(Psora?),* by intensive reduplication and the suffix denoting *badness,*—so as to give the meaning of a "very great bad redness" or cutaneous eruption.

As I have said, Roger Williams shows that the small-pox and "the great plague," were distinguished by the Indians of New England by different names. They told him, 1637–43, of "the last pox" and "the great [literally, the *last*] plague,"—and diagnosed the two as well as they could do by single words: "the late great eruption" and "the late great yellowing, or yellowness." Eliot evidently identified the "yellowing" with a "fever,"—for while he uses *wesaushâonk* for "pestilence," in Psalm xci. 3, 6, and Luke xxi. 11, and for "plague" (rarely) as in Luke vii. 21, he also uses the verb *wesôshau,* for "she was sick of a fever," in Matt. viii. 14, Mark i. 30.

One word more: we had in Connecticut, I think, an earlier autopsy than yours of 1674. In March, 166$\frac{2}{3}$, the Gen. Court allowed Mr. Bryan Rossetter—at that date the only regularly educated physician and surgeon within many miles of Hartford—payment "in reference to opening Kellie's child," and for other professional services. See Conn. Col. Records, i. 396. It is not, I admit, absolutely certain, that Kelley's child died *before* the opening. Very truly yours,

J. H. TRUMBULL.

P. S. June 27th. Looking at Bradford's History, this morning, I see that he observes (p. 326) that the Indians were more afraid of the *small-pox* than of the *plague.* Winslow does *not* identify the disease prevalent in Massachusetts in 1622, with the plague of 1617–18,—though he says (on hearsay, of course) that it was very like it, if not the same.

Jane Hawkins, who acted as midwife at the delivery of Mary Dyer's monstrosity, mentioned in page 567, was herself a physician of some notoriety. According to Governor Winthrop,—

"she used to give young women oil of mandrakes and other stuff to cause conception; and she grew into great suspicion to be a witch, for it was credibly reported, that, when she gave any medicines (for she practised physic.) she would ask the party, if she did believe, she could help her."—("The History of New England," i. 316.)

Thomas Welde, in "A Short Story," etc. (London, 1644), says that she was "notorious for familiarity with the devill."—(Page 44.) Her reputation in the community was anything but good. She was looked upon as a witch, and for that reason greatly feared by her neighbors. Her case was considered at the session of the General Court, beginning March 12, 1637–8, when it is recorded that—

"Jane Hawkins the wife of Richrd Hawkins had liberty till the beginning of the third m° called May, & the magistrates (if shee did not depart before) to dispose of her, & in the meane time shee is not to meddle in surgery, or physick, drinks, or oyles, nor to question matters of religion except w^th^ the elders for satisfaction."—(General Court Records, i. 219.)

The effect of this order is not known; but some years later summary steps were taken to get rid of her without much previous notice. At the session of the General Court, beginning June 2, 1641, it was voted that—

"Jane Hawkins is enioyned to depart away tomorrow morning, & not to returne againe hither upon paine of severe whipping, & such other punishment, as the Court shall thinke meete. & her sonnes stand bound in 20.l. to carry her away according to order."—(General Court Records, i. 309.)

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Massachusetts Medical Society.

PROCEEDINGS.

Massachusetts Medical Society.

PROCEEDINGS OF THE COUNCILLORS.

October 7, 1874.

A Stated Meeting of the Councillors was held in the Rooms of the Society, No. 36 Temple Place, Boston, at 11 o'clock, A.M., on Wednesday, October 7, 1874.

The President, Dr. B. E. Cotting, in the Chair.

The following Councillors were present :—

Barnstable.
Peter Pineo.

Bristol South.
Edward P. Abbé,
F. H. Hooper,
F. A. Sawyer.

Essex North.
John Crowell,
C. N. Chamberlain,
E. P. Hurd.

Essex South.
Ebenezer Hunt,
A. H. Johnson,
E. B. Peirson,
George A. Perkins,
Daniel Perley,
Augustus Torrey.

Middlesex East.
S. W. Abbott.

Middlesex North.
William Bass,
Levi Howard,
Joel Spalding.

Middlesex South.
B. F. D. Adams,
H. C. Chapin,
E. J. Forster,
R. L. Hodgdon,
Alfred Hosmer,
J. T. G. Nichols,
J. B. Taylor,
H. P. Walcott,
R. S. Warren,
A. C. Webber,
W. W. Wellington.

Norfolk.
Robert Amory,
George J. Arnold,
B. E. Cotting,
F. F. Forsaith,
J. Stedman,
S. E. Stone,
C. C. Tower.

Plymouth.
Asa Millet.

Suffolk.
S. L. Abbot,
J. Ayer,
J. N. Borland,
B. Brown,
P. M. Crane,
Hall Curtis,
C. Ellis,
F. B. Greenough,
A. B. Hall,
G. Hayward,
D. H. Hayden,
R. M. Hodges,
C. D. Homans,
J. Homans,
W. Ingalls,

J. B. S. Jackson,
J. F. Jarvis,
G. S. Jones,
G. H. Lyman,
C. G. Putnam,
B. S. Shaw,
A. D. Sinclair,
D. H. Storer,
C. W. Swan,
C. E. Ware,
J. C. White.

Worcester.

George E. Francis,
Thomas H. Gage,
W. H. Lincoln,
Jerome Wilmarth.

Worcester North.

Benj. H. Hartwell,
Ira Russell.

Total, 69.

On motion, the reading of the record of the Annual Meeting was dispensed with.

The Committee on the revision of the By-Laws, appointed at the Annual Meeting, reported, presenting a printed draft of the proposed code.

All the articles having been separately read, slightly amended, and accepted, on motion, the revised By-Laws were unanimously adopted as a whole.

Resolved, That on the concurrence of the Society with the Councillors in the amendments to the By-Laws accepted at this Meeting, all By-Laws, rules and orders, inconsistent therewith or superfluous, shall be rescinded and annulled.

Voted, That Rule 8 of the Councillors' Rules and Orders be amended by the addition of the following words after the word "cabinet" in the fourth line: "also a Committee to examine the By-Laws of the District Societies, to see whether they conform to the laws of the State and of the State Society."

Voted, That after the concurrence of the Society, an edition of the revised By-Laws, together with the Digest of the Laws of the State relating to the Society, and the Rules and Orders of the Councillors and the Society, be printed, and a copy be sent to each Fellow of the Society.

The following was unanimously adopted:—

To prevent misunderstanding with regard to admission into the Massachusetts Medical Society,

Resolved, By the Councillors, with the concurrence of the Society:—

That the only courses of lectures recognized are those of regularly-organized medical colleges empowered to confer the degree of M.D.,—courses embracing the several branches enumerated in By-Law I.;

That tickets or diplomas of Botanic, Eclectic or Homœopathic colleges, or of colleges devoted to any peculiar or exclusive system of medicine, are considered irregular, and will not be recognized under any circumstances;

And, That certificates from teachers who practise any peculiar or exclusive system of medicine, who advertise, or who violate in any way the code of ethics adopted by the profession in this State, will not be taken, even though the teacher himself be a regular graduate in medicine.

The President nominated the following as delegates from the Massachusetts Medical Society to attend the Annual Meeting of other State Medical Societies, and the nominations were confirmed.

To the Vermont State Medical Society.—Drs. William Cogswell of Bradford, C. M. Duncan of Shelburne, and P. O'M. Edson of Roxbury.

To the Medical Society of the State of New York.—Drs. G. C. Shattuck of Boston, E. A. Deane of Greenfield, and H. L. Sabin of Williamstown.

Voted, That the Treasurer of the Society be directed to adjust all claims for assessments against Fellows throughout the State (especially for those of more than two years' standing) on or before the next Annual Meeting, if possible.

The President remarked that a former member of the Society from the Berkshire District, and more recently of New York city, having returned to the practice of medicine in Massachusetts, had made a request to be restored to Fellowship, the privileges of which he had relinquished on removal from the State. Whereupon it was

Voted, That Drs. H. L. Sabin of Williamstown, A. M. Smith of Pittsfield, and C. T. Collins of Great Barrington, be a Committee to consider the above case, and to report at the next Stated Meeting.

The Committee on the revision of the By-Laws presented a blank form to be used by the Censors in recording the qualifications of Candidates for Fellowship, and moved its approval by the Councillors. The motion was carried.

On motion of Dr. Hosmer, the following was adopted :—

Voted, That for the purpose of giving greater permanency to the composition of the several Boards of Censors and thereby rendering their action more consistent and more efficient, the Councillors recommend to the District Societies a re-election at each Annual Meeting of at least three of the old Board; and also urge the exercise of the utmost care in selecting those who are to fill the important office of Censor.

Voted, That the Secretary of the Society be directed to notify *ex-officiis* Vice-Presidents of the meetings of the Councillors.

Voted, That the next Annual Meeting of the Society be held at 9 o'clock, A.M., the Oration to be given at 12, noon, and the Annual Dinner to be had at 1, P.M.

The Recording Secretary announced that in accordance with the resolution passed at the Annual Meeting, he had effected an arrangement by which the Society's manuscript records were placed in the fire-proof building of the New-England Historic, Genealogical Society.

In compliance with instructions from the Norfolk District Medical Society, acting pursuant to a provision of the Charter (Digest, XII.), Dr. Amory of Brookline read a paper on "The use of Running Brooks and Natural Streams for Common Sewers."

After a discussion, in which Drs. Crowell of Haverhill, Hartwell of Ayer, Jones of Boston, Pineo of Hyannis, Townsend of Natick, and Russell of Winchendon, took part, it was

Voted, That Drs. Amory, Adams, Crowell, Hodgdon, Hartwell and Bowditch be a Committee to consider the subject, and report at the next meeting of the Councillors.

Incidentally to the discussion of the foregoing question, the subject of the method usually adopted in country houses for the disposal of sink waste-water was touched upon. It was

Voted, That Drs. Adams, Amory, Crowell, Pineo and Russell be a Committee to report at the next meeting some feasible method for the disposal of slop water and sewage, comparatively inexpensive and suitable for country dwellings.

After a discussion on the Relations of Bright's Disease and Insanity, participated in by Drs. Cotting of Roxbury, Ellis of Boston, and Stone of Wakefield, at 1.10, P.M., the Councillors adjourned.

F. W. DRAPER,
Recording Secretary.

FEBRUARY 3, 1875.

A Stated Meeting of the Councillors was held in the Rooms of the Society, No. 36 Temple Place, Boston, at 11 o'clock, A.M., on Wednesday, February 3, 1875.

The President, Dr. B. E. COTTING, in the Chair.

The following Councillors were present:—

Barnstable.
Jonathan Leonard,
Peter Pineo.

Bristol North.
John R. Bronson.

Bristol South.
E. P. Abbé,
F. H. Hooper.

Essex South.
A. H. Johnson,
George A. Perkins,
Daniel Perley,
Augustus Torrey.

Middlesex East.
S. W. Abbott,
F. F. Brown.

Middlesex North.
Nathan Allen,
Levi Howard,
F. C. Plunkett,
Charles A. Savory.

Middlesex South.
H. C. Chapin,
R. L. Hodgdon,
J. T. G. Nichols,
J. B. Taylor,
H. P. Walcott,
R. S. Warren,
A. C. Webber,
W. W. Wellington,
Morrill Wyman.

Norfolk.
Robert Amory,
George J. Arnold,
Henry Blanchard,
B. E. Cotting,
F. F. Forsaith,
C. C. Holmes,
J. Stedman,
S. E. Stone.

Plymouth.
J. C. Gleason,
Asa Millet.

Suffolk.
J. Ayer,
J. N. Borland,
B. Brown,
C. E. Buckingham,
S. Cabot,
P. M. Crane,
Hall Curtis,
C. Ellis,
G. H. Gay,
F. B. Greenough,
G. Hayward,
R. M. Hodges,
C. D. Homans,
J. Homans,
W. Ingalls,
J. B. S. Jackson,
G. S. Jones,
G. H. Lyman,
F. Minot,
W. W. Morland,
W. L. Richardson,
Benjamin S. Shaw,
A. D. Sinclair,
D. H. Storer,
J. E. Tyler,
O. F. Wadsworth,
C. E. Ware,

J. C. White,	*Worcester.*	*Worcester North.*
H. W. Williams.	Jerome Wilmarth.	Ira Russell.

Total, 65.

The Secretary's record of the previous meeting was read and accepted.

The President called attention to the fact that the Charter of the Society gave the Councillors authority to fill vacancies. He suggested that the Council proceed to ballot for five Councillors.

The following were duly elected by ballot :—

Drs. William Mack, of Salem.
F. W. Draper, of Boston.
H. H. A. Beach, of Boston.
G. J. Townsend, of Natick.
D. A. Grosvenor, Jr., of Danvers.

The following Standing Committees were appointed :—

To examine the Treasurer's Accounts :
Drs. C. D. Homans and W. L. Richardson.

To examine the By-Laws of District Societies :
Drs. A. Hosmer, H. W. Williams, and Wm. Cogswell.

To examine the Library and Cabinet :
Drs. J. R. Bronson and H. O. Marcy.

Delegates were appointed to attend the Annual Meeting of other State Medical Societies, as follows :—

Maine.—Drs. A. L. Hodgdon of Arlington, T. H. Gage of Worcester, T. Dwight, Jr. of Boston.

New Hampshire.—Dr. T. N. Stone of Wellfleet, A. Hosmer of Watertown, A. Miller of Fitchburg.

Rhode Island.—Drs. C. L. Swasey of New Bedford, Azel Ames, Jr. of Wakefield, N. B. Tanner of Abington.

Connecticut.—Drs. P. LeB. Stickney of Springfield, S. A. Fisk of Northampton, F. I. Knight of Boston.

New Jersey.—Drs. S. D. Presbrey of Taunton, D. Perley of Lynn, Gilman Kimball of Lowell.

Voted, That the President be authorized to fill vacancies in the delegates above appointed.

Dr. Ayer, for the Committee on Resignations, reported, recommending that the following Fellows be placed on the retired list :—

Drs. James Aaron Stetson, of Quincy.
Nathaniel Jordan Knight, of East Somerville.

Also, that the following Fellows be placed on the retired list, and that their dues be remitted :—

Drs. Ashmun Hinckley Taylor, of Charlemont.
Chenery Puffer, of Shelburne Falls.
Marshall Spring Meade, of Northfield.

Also, that the dues of one Fellow be remitted, and three others be permitted to resign Fellowship.

The report was accepted and its recommendations were adopted.

Dr. Minot, as President of the Suffolk District Medical Society, read a preamble and resolution passed at the last meeting of that Society, requesting of the Councillors "such a definition of the term 'reside,' as it occurs in Article XII. of the By-Laws and Digest XII. of the Acts, as shall in their judgment be just and equitable to all District Societies."

On motion, the matter was referred to the Standing Committee appointed to examine the By-Laws of District Societies.

The Secretary read the following letter from President Eliot, of Harvard University.

HARVARD UNIVERSITY, 12 December, 1874.

My Dear Sir :

In reply to your valued communication of Nov. 9th,* I beg to say that at a meeting of the Medical Faculty on the 21st of Nov. 1874, it was "Voted, that certificates of time spent in medical study, from teachers who practise any peculiar or exclusive system of medicine, be not taken."

* Enclosing a copy of Resolves, on page 4.

The evil to which your communication refers was said to have been due in part to reluctance on the part of the Faculty to question or reject certificates signed by members of the Massachusetts Medical Society. In the hope that the evil, to whatever it was due, has been effectually cured, I am with much respect,

Your obed't Serv't,

[Signed] CHARLES W. ELIOT.

Dr. B. E. Cotting.

Voted, That the standing vote authorizing the Treasurer to remit to the District Societies one fourth part of the assessments paid by their members, be and is hereby rescinded and annulled.

Upon the statement of the President that Fellows of some of the Districts had represented that they did not have an equitable share in the scientific proceedings at the Annual Meeting of the Society, the following were passed :—

Voted, That the Committee to procure Scientific Papers, in addition to their already established duties, be instructed to obtain from each District Society, an Annual Report on cases of importance in the District, the public health thereof, or any subject of local interest connected with the practice of Medicine or Surgery— the said Report to be presented to the State Society at its Annual Meeting.

Voted, That said Report be obtained through a Committee, or single Reporter, to be chosen from year to year, in advance, by the District Society at its Annual Meeting, or by the Committee to procure Scientific Papers, if the District Society neglect or fail to make the choice at the time aforesaid.

Voted, That the Committee to procure Scientific Papers may select portions of these Reports to be read, if time permit, at the Annual Meeting of the State Society; and that the Committee on Publications may publish such portions, or such whole Reports, as Experts shall designate as worthy of publication.

Voted, That the Chairman of such District Committee, or, if no Committee, the District Reporter, whose Report shall be deemed by Experts worthy of publication, may have his annual assessment remitted for the year next ensuing, on application to the Treasurer of the State Society.

Voted, That the foregoing votes be printed and distributed at once to the officers of the District Societies, to be acted on by the said Societies at their next Annual Meeting.

The Secretary read a communication from the Censors of the Norfolk District Medical Society, asking for instructions from the Councillors upon the following question: "Whether a physician is disqualified from admission to the Society from the fact that he is the proprietor of a drug-store in which are sold patent medicines, or medicines the composition of which is kept secret." Whereupon it was

Voted, That in the opinion of the Councillors no person should be admitted to membership who deals in, or offers for sale, secret medicines.

The Secretary having explained that the Catalogue now printed annually was a source of considerable delay in the publication of the proceedings, that it was expensive to a degree out of proportion to its usefulness, that it contained many inevitable errors; and, moreover, that the catalogue now ordered to be published once in five years appeared at such a long interval of time as to lose much of its value, the following were passed:—

Voted, That the Committee on Publications be instructed to omit from the published Proceedings of the Society, the Catalogue of Fellows heretofore printed annually, substituting therefor a list of members admitted and deceased during the year.

Voted, That the present year, and hereafter once in three years, there shall be issued, at the expense of the Society, a Catalogue to be entitled "A Triennial Catalogue of the Fellows of the Massachusetts Medical Society"; the said Catalogue to contain a list of all the Fellows (those dropped and expelled excepted), and to take the place of the catalogues now ordered to be issued annually and once in five years.

Voted, That the Committee on Publications be instructed to supervise the Publication of the Triennial Catalogues of Fellows, and be authorized to employ such assistance in their preparation as they may think needful.

Voted, That the Committee on Publications may publish in the same volume with the Annual Discourse, so far as funds permit, such of the papers read at the Annual Meeting as duly appointed experts shall determine to be worthy of such publication.

On motion of Dr. Millet, it was

Resolved, That in the opinion of the Councillors it is "unbecoming" and deserving of penalty for a Fellow of the Massachusetts Medical Society not to appear as a witness before a Board of Trial, when summoned there by the Committee on Ethics and Discipline, without sending at the time an excuse satisfactory to the Board of Trial.

A petition was presented from fourteen physicians of Charlestown, asking to be transferred from the Middlesex South District Medical Society to the Suffolk District Medical Society.

On motion, the memorial was referred to a special Committee comprised as follows: Drs. F. Minot of Boston, W. W. Wellington of Cambridgeport, and F. F. Forsaith of Weymouth.

Dr. Amory, for the special Committee appointed at the last meeting of the Councillors to consider the subject of the use of running streams and natural water courses as sewers, presented a report and requested farther time. The request was granted.

The same Committee also moved the adoption of the following:

Resolved, That a Committee be appointed to prepare, in the name of the Massachusetts Medical Society, a memorial to the General Court, praying the Legislature to authorize and appoint a Commission to thoroughly investigate the above question in its relations to Public Health. And that the expenses of said Commission, if appointed, be borne by the State Treasury. And that said Commission be so appointed, that the Medical, as well as the Engineering profession be represented.

The resolution was adopted, and authority was given to the Committee from whom it came to execute its provisions.

On motion of Dr. Amory, Dr. A. H. Johnson of Salem was added to the foregoing Committee.

At 1.50 o'clock, P.M., the Councillors adjourned.

F. W. DRAPER,
Recording Secretary.

Annual Meeting.

The Annual Meeting of the Councillors was held at the Rooms of the Society, No. 36 Temple Place, Boston, on Tuesday, June 8, 1875, at 7 o'clock, P.M.

The President, Dr. B. E. Cotting, in the Chair.

The following Councillors were present:—

Barnstable.
S. H. Gould,
T. N. Stone,
Peter Pineo.

Berkshire.
J. F. A. Adams,
Clarkson T. Collins.

Bristol North.
John R. Bronson,
Silas D. Presbrey.

Bristol South.
G. Atwood,
S. W. Bowen,
W. W. Comstock,
J. H. Mackie,
John Pierce,
J. J. B. Vermyne.

Essex North.
David Dana.

Essex South.
P. M. Chase,
A. H. Johnson,
Edward Newhall,
Daniel Perley.

Franklin.
E. Barton,
J. W. D. Osgood.

Hampden.
Thomas L. Chapman,
E. M. Pease.

Hampshire.
James Dunlap,
S. A. Fisk,
C. B. Smith.

Middlesex East.
S. W. Abbott,
F. F. Brown,
Frederic Winsor.

Middlesex North.
Charles A. Savory.

Middlesex South.
B. F. D. Adams,
H. C. Chapin,
E. R. Cutler,
Howland Holmes,
Otis E. Hunt,
H. O. Marcy,
J. T. G. Nichols,
L. R. Stone,
J. L. Sullivan,
G. J. Townsend,
C. E. Vaughan,
H. P. Walcott,
A. C. Webber,
W. W. Wellington,
J. W. Willis.

Norfolk.
Robert Amory,
George J. Arnold,
Henry Blanchard,
B. E. Cotting,
R. T. Edes,
F. F. Forsaith,
C. C. Hayes,
James Morison,
Joel Seaverns,
J. Stedman,
C. C. Tower.

Plymouth.
J. C. Gleason,
Asa Millet.

Suffolk.
S. L. Abbot,
J. Ayer,
H. H. A. Beach,
H. J. Bigelow,
J. N. Borland,
H. I. Bowditch,
C. E. Buckingham,
S. Cabot,
P. M. Crane,
D. W. Cheever,
H. Derby,
F. W. Draper,
C. Ellis,
R. H. Fitz,
G. H. Gay,
J. O. Green,
F. B. Greenough,
A. B. Hall,
D. H. Hayden,
R. M. Hodges,
C. D. Homans,
J. Homans,
W. Ingalls,
J. B. S. Jackson,
J. F. Jarvis,
B. J. Jeffries,

F. I. Knight,
G. H. Lyman,
F. Minot,
C. B. Porter,
W. L. Richardson,
A. D. Sinclair,
C. W. Swan,
J. B. Treadwell,
J. E. Tyler,
O. F. Wadsworth,
C. E. Ware,
J. C. White,
H. W. Williams.

Worcester.

J. S. Ames,
George E. Francis,
Thomas H. Gage,
J. Sargent,
J. T. O. West,
Jerome Wilmarth.

Worcester North.

Benj. H. Hartwell,
Ira Russell.

Total, 104.

The Secretary's record of the previous meeting was read and accepted.

The President read the names of the Nominating Committee as chosen by the District Societies in accordance with the Standing Resolve of the Councillors.

The Secretary read the names of sixty-nine new and of forty-four deceased Fellows.

The Treasurer, Dr. Minot, read his annual report.

Dr. C. D. Homans, for the Auditing Committee, reported that the accounts were correctly cast and properly vouched.

The Treasurer's report was then accepted.

The Committee on Publications reported through Dr. Ellis, that the duties of the Committee had been duly attended to.

The Committee on Finances reported through Dr. Lyman, and the report was accepted. The paper is on file.

On the Committee's recommendation it was

Voted, That the salary of the Treasurer be four hundred dollars, and that he be required to give bonds to the amount of fifteen thousand dollars.

The Committee on Ethics and Discipline reported through the Chairman, Dr. Millet. The report was accepted, and is on file.

The Committee on Membership and Resignations reported through the Chairman, Dr. Ayer. Upon this report it was

Voted, That the following Fellows be placed upon the retired list at their own request:—

Drs. Levi Goodenough, of Sudbury.
Allen Clark Fay, of Milford.
Joseph Cummins Batchelder, of Templeton.
Daniel Tyler Coit, of Boston.

Voted, That the request of a physician in Barnstable District to be reinstated, after having lost membership by removal from the State, be referred to a special Committee, consisting of Drs. S. H. Gould of Brewster, Peter Pineo and G. W. Doane of Hyannis, to be reported upon at the next meeting.

Voted, That the names of three Fellows be dropped for non-payment of dues.

Voted, That three Fellows be excused from the payment of their dues.

Dr. Hosmer, for the Committee on the By-Laws of District Societies, made an extended report. Whereupon it was

Voted, That the Committee be instructed to see that the By-Laws of District Medical Societies be so amended that they shall conform with the By-Laws of the State Society and with the Charter; and to report their action to the Councillors.

This Committee also reported concerning the special matter referred to them, namely, the definition of the word "reside" as it occurs in the Charter and By-Laws of the State Society. After hearing the report, it was

Voted, To recommit that portion of the report referring to the definition of the term "reside," and to instruct the Committee to report a more definite interpretation of the expression in question.

Dr. C. C. Holmes, of Milton, was elected a Councillor to fill a vacancy existing in the Councillors from the Norfolk District.

Dr. Bronson reported for the Committee on the Library, presenting also the Librarian's report for the year. Accepted.

The Committee on Nominations unanimously reported the following list of Candidates for the offices of the Society for the ensuing year, and the same were duly elected by ballot:—

For *President*, ... Dr. Benjamin E. Cotting.
Vice-President, ... Dr. Joseph Sargent.
Treasurer, ... Dr. F. W. Draper.
Corresponding Secretary, . . Dr. C. W. Swan.
Recording Secretary, ... Dr. F. W. Goss.
Librarian, ... Dr. D. H. Hayden.

On motion of Dr. C. D. Homans, it was unanimously

Voted, That the thanks of the Councillors be expressed to Dr. Minot, the retiring Treasurer, for the zeal and fidelity with which he has administered his trust during his prolonged service as an officer of the Society.

By acclamation, Dr. P. LeB. Stickney, of Springfield, was chosen the Orator, and

Dr. John H. Mackie of New Bedford, the Anniversary Chairman for the next Annual Meeting.

Voted, That the next Annual Meeting of the Society be held in Boston, on the second Wednesday in June, 1876.

The following Standing Committees were appointed, on the nomination of the President:—

Committee of Arrangements.

R. Amory, C. J. Blake, J. Collins Warren,
A. H. Nichols, Thomas Dwight, Jr., W. L. Richardson.

On Publications.

G. C. Shattuck, R. M. Hodges, W. W. Morland.

On Resignations.

J. Ayer, F. Minot, J. C. White.

On Finances.

G. H. Lyman, C. D. Homans, W. W. Wellington.

To procure Scientific Papers.

H. W. Williams, C. Ellis, F. K. Paddock,
G. S. Stebbins, E. Wigglesworth, Jr.

On Ethics and Discipline.

A. Millet, T. H. Gage, C. E. Buckingham,
D. W. Cheever, R. L. Hodgdon.

G. H. Lyman, C. D. Homans, W. W. Wellington, Hall Curtis, and W. L. Richardson, were appointed a Committee to receive the property of the Society from the retiring Treasurer, to audit the same, and to transfer it to the Treasurer elect.

Dr. Minot reported for the Committee to whom was referred the memorial of certain Charlestown physicians, asking to be transferred from the Middlesex South District Society to the Suffolk District Society. The report opposed the action asked for, on the ground that the petition sought the transfer of a number of physicians and not of a portion of territory from one district to another. The report was accepted and the request refused.

Dr. Amory, for the Committee on the use of running streams and natural water courses as common sewers, &c., reported that the instructions given by the Councillors at the previous meeting had been fulfilled, and that in consequence of the Committee's representations before the Committee of the Legislature, the General Court had passed a bill [see *General Laws*, 1875, chap. 192, p. 125] directing the State Board of Health to make a special investigation of the whole subject. This report was accepted and the Committee discharged.

Dr. Adams, Chairman of the Committee to present a feasible plan for disposing of the slops and sewage of country houses, read an extended report.

On motion of Dr. Bowditch, the matter was recommitted, with instructions that the Committee report at a future meeting a more fully detailed plan for country-house drainage.

On motion of Dr. Adams, Dr. Bowditch was added to the Committee.

The following were appointed delegates to the meeting of the New Dominion Medical Association in Halifax, on the 5th of August next :—

Drs. Peter Pineo, of Hyannis.
John E. Tyler, of Boston.

On motion of Dr. Bowditch, seconded by Dr. Cabot, it was

Voted, That a Committee of five be appointed to report, at the next Councillors' meeting, whether some plan cannot be devised whereby a woman who has been thoroughly educated in Medicine and Surgery can receive the rights and privileges which membership of this Society gives to all Fellows belonging to it.

The following were chosen to serve on the above Committee: Drs. H. I. Bowditch of Boston, S. A. Fisk of Northampton, S. Cabot of Boston, Joseph Sargent of Worcester, and W. W. Wellington of Cambridgeport.

At 9.15 o'clock the Councillors adjourned, to partake of a collation provided by the President.

F. W. DRAPER,
Recording Secretary.

Massachusetts Medical Society.

PROCEEDINGS OF THE SOCIETY.

Adjourned Meeting, October 7, 1874.

The Society met, pursuant to adjournment, at half-past 2 o'clock, P.M., on Wednesday, October 7, 1874, at the Rooms, No. 36 Temple Place, Boston.

The President, Dr. B. E. Cotting, in the Chair.

Voted, That the Rules and Orders of the Society be amended as follows:—

In Article 5, by striking out the word "shall" after "Fellow," and inserting the words "wishes to."

In Article 6, by adding the words "more than twice without obtaining leave of the meeting."

In Article 11, by adding the words, "Yeas and nays may be ordered by one third of the members present."

In Article 12, by substituting "12 o'clock, M.," for "1 o'clock, P.M."

It was unanimously

Voted, That the Society concur with the Councillors in adopting the revised By-Laws, and in rescinding and annulling all By-Laws, Rules and Orders inconsistent therewith or superfluous.

Voted, That the officers of the Society, acting in its behalf, petition the National Congress for the enactment of such measures as shall give to the Medical staff of the Army a rank and chance of promotion equivalent to those accorded to other staff corps.

Voted, To concur with the Councillors in the passage of the following:—

To prevent misunderstanding with regard to admission into the Massachusetts Medical Society,

Resolved, By the Councillors, with the concurrence of the Society:—

That the only courses of lectures recognized are those of regularly-organized medical colleges empowered to confer the degree of M.D.,—courses embracing the several branches enumerated in By-Law I.;

That tickets or diplomas of Botanic, Eclectic or Homœopathic colleges, or of colleges devoted to any peculiar or exclusive system of medicine, are considered irregular, and will not be recognized under any circumstances;

And, That certificates from teachers who practise any peculiar or exclusive system of medicine, who advertise, or who violate in any way the code of ethics adopted by the profession in this State, will not be taken, even though the teacher himself be a regular graduate in medicine.

Adjourned.

F. W. DRAPER,
Recording Secretary.

ANNUAL MEETING.

First Day.

The Society met in the Hall of the Lowell Institute, Boston, on Tuesday, June 8, 1875, at 12 o'clock, noon, the Vice-President, Dr. Joseph Sargent, in the Chair.

The reading of Scientific Papers was begun as follows:—

I.—*On the Treatment of Typhoid Fever by Cold Water.* By R. T. Edes, M.D., of Roxbury.

II.—*The Obstetric Forceps as a Time-saver.* By Geo. E. Francis, M.D., of Worcester.

III.—*The Microscopy of the Urine.* By George H. Pillsbury, M.D., of Lowell.

At 1.30 o'clock, P.M., the Society adjourned, to meet at 3 o'clock, at which hour the reading of papers was continued as follows:—

IV. *The Inner Surface of the Uterus after Parturition.* By Leonard Wheeler, M.D., of Worcester.

V.—*Alcohol in some of its Pathological and Social Relations.* By FREDERICK W. RUSSELL, M.D., of Winchendon.

Adjourned at 5, P.M.

At 10 o'clock, P.M., after the Councillors' Meeting, the following paper was read. The paper was illustrated with illuminated photographs by means of Black's Stereopticon.

VI.—*A new Use of the Membrana Tympani.* By C. J. BLAKE, M.D., of Boston.

Prof. A. Graham Bell, of Boston, spoke, in connection with Dr. Blake's paper, of the practical use to which the demonstrations of phonautography presented by Dr. Blake might be put in the instruction of deaf-mutes.

At 11, P.M., the Society adjourned.

F. W. DRAPER,
Recording Secretary.

SECOND DAY.

The Society met in the Hall of the Lowell Institute, Boston, on Wednesday, June 9, 1875, at 9 o'clock, A.M., for the Anniversary exercises.

The President, Dr. B. E. COTTING, in the Chair.

The Secretary's records of the last Annual Meeting, and of subsequent adjourned meetings, were read and accepted.

The Treasurer's annual report was read.

The action of the Board of Trial in the following cases was confirmed, and it was voted, in accordance with the verdict of the Board, that the following Fellows "be and are expelled from the Massachusetts Medical Society" :—

Hiram Luce Chase, of Cambridge.
Herbert Codman Clapp, of Boston.
George Howard Jones, of Boston.
Floyer Galen Kittredge, of Peabody.

The Secretary read the names of Fellows admitted since the last Annual Meeting, and of Fellows whose deaths had been reported.

List of Fellows admitted since June 1, 1874.

1875.	Benner, Burnham Roswell,	Lowell.
1874.	Brooks, Lawton Sumner,	Springfield.
1874.	Bryant, Lewis Lincoln,	Cambridgeport.
1874.	Brockway, Charles Henry,	Boston.
1875.	Cabot, Arthur Tracy,	Boston.
1875.	Carleton, Robert Marsh,	Boston.
1875.	Carter, John Thomas,	South Boston.
1875.	Chase, Charles Edmund,	Woburn.
1875.	Clark, Jonas, Jr.	Boston.
1875.	Clark, Stephen Wilson,	Lynn.
1874.	Clement, Thomas Runnells,	Centreville.
1875.	Cliff, Leander Albert,	Boston.
1875.	Cushing, Ernest Watson,	Boston.
1875.	Dale, William Henry,	Boston.
1874.	Dearborn, Reuben Fletcher,	Lynn.
1875.	Eayrs, Marshall Perry,	Boston.
1875.	Elliot, Daniel Mitchel,	South Deerfield.
1874.	Farnham, Edwin,	Cambridge.
1875.	Field, Edwin,	West Stockbridge.
1875.	Finn, James Anthony,	Boston.
1875.	Fowler, Edgar Omera,	Danvers.
1875.	Fox, George Townsend,	Boston.
1875.	Freeman, George Edward,	Brockton.
1875.	Garland, Albert Stone,	Gloucester.
1874.	Gilfillan, Thomas,	Cummington.
1875.	Gerry, Edwin Peabody,	Jamaica Plain.
1875.	Hackett, Charles Warren,	Maplewood.
1875.	Harmes, Rudolph,	Becket.
1874.	Hall, Junius Marius,	Northampton.
1875.	Hammond, Roland,	Bellingham.
1875.	Irish, John Carroll,	Lowell.
1875.	Kinnear, Beverley Oliver,	Boston.
1874.	Kittredge, Thomas,	Lawrence.
1875.	Kingsbury, Albert Dexter,	Needham.
1875.	Knight, Stephen Converse,	Marblehead.

1875.	Keely, Frank Harrison,	Worcester.
1874.	Lamb, Ora Haskell,	Coleraine.
1874.	Lawton, Sanford, Jr.	Springfield.
1875.	Lovejoy, Daniel Heywood,	Winchester.
1874.	Lovejoy, Wallace Williams,	South Boston.
1874.	Luce, Lyman Horace,	Falmouth.
1875.	McCormick, Cornelius Jos.	Boston.
1875.	McGowan, Charles Edward,	Boston.
1875.	Mallalieu, Albert Warner,	Springfield.
1875.	Mecuen, George Edward,	Boston.
1875.	Moors, Edward Jesse,	Boston.
1875.	Morse, Frederick Langdon,	North Cambridge.
1874.	Newton, Adin Hubbard,	Chatham.
1875.	Nott, Albert,	West Newton.
1874.	Parker, William Thornton,	Paris.
1875.	Parker, Francis Fullam,	Springfield.
1875.	Pomeroy, Stephen Franklin,	Springfield.
1875.	Pierce, Andrew Martin,	New Bedford.
1874.	Pierce, Gardner Carpenter,	Ashland.
1875.	Riley, Thomas,	South Adams.
1875.	Ross, Orrin George,	Revere.
1875.	Reardon, Jeremiah John,	Boston.
1875.	Robinson, Samuel Quincy,	Boston.
1874.	Sawyer, Charles Milton,	Haverhill.
1875.	Stanton, John Gilman,	South Boston.
1875.	Talbot, James Hartamus,	North Cambridge.
1875.	Tilden, George Horton,	Boston.
1875.	Tucker, Edward Tobey,	New Bedford.
1875.	Wilson, Charles Milo,	Shelburne Falls.
1874.	Wing, Clifton Ellis,	Boston.
1875.	Wilder, Frank Blaisdell,	Newton Centre.
1875.	White, Horace Carr,	East Somerville.
1875.	Winn, William Adams,	Boston.
1875.	Yale, Joseph Calhoun,	Ware.

Total, 69.

List of Deceased Fellows.

Admitted.	Name.	Residence.	Date of Death.	Age.
1854	Barker, Bowen	S. Hanson	Nov. 22, 1874	74
1830	Burnap, Sewell Goodridge	Holliston	Oct. 16, 1874	72
1848	Cady, Franklin A.	Pittsfield	Feb. 19, 1875	50
1857	Cowdrey, Harris	Acton	May 6, 1875	72
1840	Clough, Willard	Pittsfield	June 4, 1874	60
1848	*Crosby, Josiah	Manchester, NH.	Jan. 7, 1875	81
1874	Crosby, William Sage	Roxbury	April 6, 1875	26
1833	Davenport, Edward Jones	Boston	May 7, 1875	69
1836	*Delafield, Edward	New York	Feb. 13, 1875	81
1844	Derby, George	Boston	June 20, 1874	55
1839	Doggett, Perez Fobes	Wareham	Jan. 28, 1875	68
1841	Drew, Stephen Watson	Woburn	Feb. 18, 1875	56
1868	Eastman, Henry	Pittsfield	May 13, 1875	35
1835	Farnum, Joseph	Salem	Nov. 22, 1874	65
1867	Farrar, Daniel	Leominster	June 3, 1875	39
1847	Fiske, Calvin Park	Hillsdale, Ill.	July 19, 1874	68
1829	Flint, John.	Boston	Jan. 8, 1875	71
1849	Godding, Alvah	Winchendon	Feb. 4, 1875	78
1826	Green, Joshua	Groton	June 5, 1875	77
1851	Gould, Humphrey	Rowe	Oct. 8, 1874	78
1831	Greene, J. Singleton Copley.	Brookline	July 6, 1872	61
1864	Hitchcock, Thomas Barnes	Boston	June 24, 1874	35
1848	Hoyt, Enos	Framingham	Mar. 25, 1875	79
1830	Hunt, Ebenezer	Danversport	Oct. 27, 1874	75
1863	Ingalls, Paschal Pierce	S. Boston	Nov. 21, 1874	38
1830	Keep, Nathan Cooley	Boston	Mar. 11, 1875	74
1849	*Mauran, Joseph	Providence	June 8, 1873	76
1848	Moore, Edward Bucknam	Boston	Sept. 16, 1874	73
1867	Munroe, William Francis	Boston	May 17, 1875	35
1813	Newell, Jonathan	Stow	Feb. 6, 1868	84
1853	Nelson, George	Bellingham	Mar. 14, 1875	79
1837	Orcutt, Harvey	Westhampton	Dec. 8, 1873	72
1844	Peirson, Edward Brooks	Salem	Nov. 19, 1874	54
1830	Putnam, Charles Gideon	Boston	Feb. 5, 1875	69
1852	Rolfe, Enoch Carter	Boston	Mar. 27, 1875	62
1861	Seyffarth, Edmund	Lawrence	July 21, 1874	47
1846	Shove, George	Yarmouth	Feb. 2, 1875	57
1834	Shurtleff, Nath'l Bradstreet	Boston	Oct. 17, 1874	64
1864	Simmons, Marshall Edwin	Wareham	May 9, 1874	42
1831	Stone, Jeremiah	Provincetown	Apr. 23, 1875	76
1875	Talbot, James Hartamus	N. Cambridge.	May 9, 1875	47
1862	Tourtellotte, Aug. Valentine	N. Grosven'r, Ct	Oct. 8, 1872	52
1834	Wight, Danforth Phipps	Dedham	June 8, 1874	82
1837	Wyman, Jeffries	Cambridge	Sept. 4, 1874	60
			Total,	44

* Honorary.

The following delegates from other State Medical Societies were introduced by the President, and made brief addresses :—

A. Woodward, M.D., *Connecticut Medical Society.*
S. Putnam, M.D., *Vermont Medical Society.*
G. P. Conn, M.D., *New-Hampshire Med. Society.*

At 10 o'clock, Dr. Ira Russell, of Winchendon, read a paper on the Expediency of establishing State Inebriate Asylums. The writer proposed the passage of a resolution by the Society favoring State inebriate asylums.

An animated discussion of the question ensued, in which Drs. Earle of Northampton, Tyler of Boston, Millet of Bridgewater, Godding of Taunton [by letter], Woodward of Worcester, Cogswell of Bradford, Clough of Woburn, and Bronson of Attleboro', took part. The resolution offered by Dr. Russell was finally laid on the table.

At 12 o'clock, the Annual Discourse was delivered by Dr. GEORGE H. LYMAN, of Boston.

After an appropriate expression of thanks to the Orator at the conclusion of his address, the Society, to the number of upwards of six hundred, adjourned at 1, P.M., to the Music Hall, to enter upon the exercises of the Anniversary Dinner.

F. W. DRAPER,
Recording Secretary.

TREASURER'S REPORT, 1875.

THE Treasurer begs to report that the amount received by him since the last Annual Meeting, is $7,981.24. The amount paid is, $7,947.10, and there is a balance of $34.14 in favor of the Society.

The property of the Society is, as before, $30,420.17, namely :—

Shattuck Fund, . .	$9,166.87
Phillips Fund, . .	10,000.00
General Fund, . .	11,253.30
	$30,420.17

Respectfully submitted,

FRANCIS MINOT.

JUNE 8, 1875.

DR. Francis Minot, Treasurer, in Account with Massachusetts Medical Society. CR.

Received at Annual Meeting (exclusive of Suffolk District),			795 00
Sundry Assessments (exclusive of Suffolk District),			300 00
From DISTRICTS:	Barnstable,		
	Berkshire,	$125 00	
	Bristol North,	90 00	
	Bristol South,	160 00	
	Essex North,	200 00	
	Essex South,	215 00	
	Franklin,	85 00	
	Hampden,	121 50	
	Hampshire,	140 00	
	Middlesex East,		
	Middlesex North,	175 00	
	Middlesex South,	330 00	
	Norfolk,	559 00	
	Plymouth,	65 00	
	Suffolk,	1440 00	
	Worcester,	285 00	
	Worcester North,	25 00	4015 50
Interest—	General Fund,	$731 46	
	Shattuck Fund,	704 00	
	Phillips Fund,	560 94	1996 40
Rents,			849 34
Diplomas,			20 00
Incidental,			5 00
			$7981 24

Refunded to DISTRICTS:	Barnstable,		
	Berkshire,	$18 95	
	Bristol North,	40 75	
	Bristol South,	54 25	
	Essex North,	40 00	
	Essex South,	93 25	
	Franklin,	17 50	
	Hampden,	28 50	
	Hampshire,		
	Middlesex East,		
	Middlesex North,	27 50	
	Middlesex South,	133 25	
	Norfolk,	118 79	
	Plymouth,	18 50	
	Suffolk,	453 85	
	Worcester,	86 75	
	Worcester North,	1 25	1133 09
Publications (including printing),			2812 85
Rent, Taxes, Fuel, Gas, Water and Care of Rooms,			1395 27
Interest,			133 00
Expenses of Annual Meeting:	Dinner,	1400 00	
	Hall,	200 00	
	Music,	15 00	
	Sundries,	117 90	1732 90
Treasurer's Salary,			300 00
Trials,			65 15
Balance due Treasurer from last account,			95 51
Incidental,			252 33
Censors,			27 00
			7947 10
	Balance on hand,		34 14
[E. & O. E.]			$7981 24

Officers of the Massachusetts Medical Society.

1875–76.

Chosen June 8, 1875.

BENJAMIN E. COTTING,	Roxbury,	President.
JOSEPH SARGENT,	Worcester,	Vice-President.
FRANK W. DRAPER,	Boston,	Treasurer.
CHARLES W. SWAN,	Boston,	Cor. Secretary.
FRANCIS W. GOSS,	Roxbury,	Rec. Secretary.
DAVID H. HAYDEN,	Boston,	Librarian.
P. LeB. STICKNEY,	Springfield,	Orator.
JOHN H. MACKIE,	N. Bedford,	Anniv. Chairman.

Committee of Arrangements.

R. Amory, Thomas Dwight, Jr.,
A. H. Nichols, J. Collins Warren,
C. J. Blake, W. L. Richardson.

Standing Committees.

On Publications.

G. C. Shattuck, R. M. Hodges, W. W. Morland.

On Resignations.

J. Ayer, F. Minot, J. C. White.

On Finances.

G. H. Lyman, C. D. Homans, W. W. Wellington.

To Procure Scientific Papers.

H. W. Williams, Calvin Ellis, F. K. Paddock,
G. S. Stebbins, E. Wigglesworth, Jr.

On Ethics and Discipline.

A. Millet, T. H. Gage, C. E. Buckingham,
D. W. Cheever, R. L. Hodgdon.

Presidents of District Societies—Vice-Presidents (Ex-Officiis).

[Arranged according to Seniority.]

William Cogswell,
G. W. Doane,
Charles Howe,
George J. Townsend,
Joseph T. O. West,
Henry W. Williams,
J. Leland Miller,
C. D. Stickney,
Francis C. Greene,
Edward Newhall,
Ira Russell,
Nelson B. Tanner,
Daniel P. Gage,
Silas E. Stone,
Samuel W. Abbott,
William J. Sawin,
Rollins C. Ward.

Councillors.

Barnstable.—Erastus Emery, Truro; S. H. Gould, Brewster; Chauncey M. Hulbert, South Dennis; Peter Pineo, Hyannis; T. N. Stone, Wellfleet.

Berkshire.—Drs. J. F. A. Adams, Pittsfield; Clarkson T. Collins, Great Barrington; S. M. Reynolds, Richmond; H. L. Sabin, Williamstown; Abner M. Smith, Pittsfield; Andrew M. Smith, North Adams.

Bristol North.—Drs. John R. Bronson, East Attleboro'; Joseph Murphy, Nomus Paige, Silas D. Presbrey, Taunton.

Bristol South.—George Atwood, Fairhaven; S. W. Bowen, Fall River; W. W. Comstock, Middleboro'; R. T. Davis, Fall River; J. H. Mackie, New Bedford; John Pierce, Edgartown; J. J. Vermyne, New Bedford.

Essex North.—Drs. C. N. Chamberlain, David Dana, Lawrence; James C. How, Haverhill; E. P. Hurd, Newburyport; Walter H. Kimball, Andover; R. B. Root, Georgetown; O. F. Seavey, West Amesbury; S. K. Towle, Haverhill.

Essex South.—Drs. P. M. Chase, Danvers; A. H. Johnson, William Mack, Salem; Edward Newhall, Lynn; George S. Osborne, Peabody; George A. Perkins, Salem; Daniel Perley, Lynn; Augustus Torrey, Beverly.

Franklin.—Drs. E. Barton, South Orange; E. C. Coy, Worthington; A. C. Deane, J. W. D. Osgood, A. C. Walker, Greenfield.

Hampden.—Drs. Cyrus Bell, Agawam; S. D. Brooks, Springfield; Thomas L. Chapman, Longmeadow; W. W. Gardner, E. M. Pease, Springfield.

Hampshire.—Drs. C. M. Barton, Hatfield; James Dunlap, S. A. Fisk, Northampton; C. B. Smith, Granby.

Middlesex East.—Drs. S. W. Abbott, Wakefield; F. F. Brown, Reading; Frederic Winsor, Winchester.

Middlesex North.—Drs. Nathan Allen, Lowell; Levi Howard, Chelmsford; Gilman Kimball, W. H. Leighton, G. H. Pillsbury, G. E. Pinkham, Charles A. Savory, Joel Spalding, Lowell.

Middlesex South.—Drs. B. F. D. Adams, Waltham; H. C. Chapin, Lincoln; E. R. Cutler, Waltham; Howland Holmes, Lexington; Otis E. Hunt, Newton; H. O. Marcy, Cambridgeport; J. T. G. Nichols, Cambridge; L. R. Stone, Newton; J. L. Sullivan, Malden; G. J. Townsend, South Natick; C. E. Vaughan, Cambridge; H. P. Walcott, Cambridge; A. C. Webber, W. W. Wellington, Cambridgeport; J. S. Whiting, Charlestown; J. W. Willis, Waltham; Morrill Wyman, Cambridge.

Norfolk.—Drs. Robert Amory, Brookline; George J. Arnold, Roxbury; Henry Blanchard, Neponset; B. E. Cotting, *President*, R. T. Edes, Roxbury; F. F. Forsaith, Weymouth; C. C. Hayes, Hyde Park; C. C. Holmes, Milton; James Morison, Quincy; Joel Seaverns, Roxbury; J. Stedman, Jamaica Plain; C. C. Tower, South Weymouth.

Plymouth.—Drs. J. B. Brewster, Plymouth; J. C. Gleason, East Abington; Asa Millet, Bridgewater; W. Richards, Brockton.

Suffolk.—Drs. S. L. Abbot, J. Ayer, H. H. A. Beach, H. J. Bigelow, J. N. Borland, H. I. Bowditch, B. Brown, C. E. Buckingham, S. Cabot, D. W. Cheever, P. M. Crane, Hall Curtis, H. Derby, F. W. Draper, *Treasurer*, C. Ellis, R. H. Fitz, G. H. Gay, J. O. Green, S. A. Green, F. B. Greenough, A. B. Hall, G. Hay, D. H. Hayden, *Librarian*, R. M. Hodges, C. D. Homans, J. Homans, W. Ingalls, J. B. S. Jackson, J. F. Jarvis, B. J. Jeffries, F. I. Knight, G. H. Lyman, F. Minot, W. W. Morland, H. K. Oliver, C. B. Porter, J. P. Reynolds, W. L. Richardson, G. C. Shattuck, A. D. Sinclair, D. H. Storer, C. W. Swan, *Corresponding Secretary*, J. B. Treadwell, J. E. Tyler, O. F. Wadsworth, C. E. Ware, J. C. White, H. W. Williams, of Boston.

Worcester.—Drs. J. S. Ames, Holden; F. W. Brigham, Shrewsbury; George E. Francis, Thomas H. Gage, Worcester; W. H. Lincoln, Millbury; Oramel Martin, J. Sargent, Worcester; J. T. O. West, Princeton; E. M. Wheeler, Spencer; Jerome Wilmarth, Upton.

Worcester North.—Drs. George D. Colony, Fitchburg; Benjamin H. Hartwell, Ayer; George Jewett, Fitchburg; Ira Russell, Winchendon.

Censors.

Barnstable.—Drs. Benjamin D. Gifford, South Chatham; William J. Nickerson, South Yarmouth; Peter Pineo, Hyannis; J. M. Smith, Barnstable; T. N. Stone, Wellfleet.

Berkshire.—Drs. C. T. Collins, Great Barrington; M. E. Jones, F. K. Paddock, Abner M. Smith, Pittsfield; D. M. Wilcox, Lee.

Bristol North.—Drs. George L. Ellis, W. W. Godding, Joseph Murphy, S. D. Presbrey, N. M. Ransom, Taunton.

Bristol South.—Drs. B. J. Handy, Fall River; Henry Johnson, C. D. Prescott, New Bedford; J. Q. A. Tourtellot, J. B. Whitaker, Fall River.

Essex North.—Drs. John Crowell, Haverhill: John A. Douglass, Amesbury; Francis A. Howe, Newburyport; Thomas Kittredge, Lawrence; Orin Warren, West Newbury.

Essex South.—Drs. Joseph Garland, Gloucester; Arthur Kemble, Salem; J. G. Pinkham, Lynn; O. B. Shreve, Salem; S. W. Torrey, Beverly.

Franklin.—Drs. F. J. Canedy, Shelburne Falls; C. L. Fisk, Jr., Greenfield; William H. Hills, New Salem; C. E. Severance, Shelburne Falls; E. S. Weston, Coleraine.

Hampden.—Drs. H. C. Belden, West Springfield; L. S. Brooks, David Clark, Charles P. Kemp, Springfield; L. F. Humeston, Holyoke.

Hampshire.—Drs. D. B. N. Fish, Amherst; C. Seymour, Northampton; G. F. Thomson, Belchertown.

Middlesex East.—Drs. F. F. Brown, Reading; A. H. Cowdrey, Stoneham; J. O. Dow, Reading; D. W. Wight, Frederic Winsor, Winchester.

Middlesex North.—Drs. Charles Dutton, Tyngsboro'; C. M. Fisk, Lowell; George Munroe, Billerica; F. Nickerson, Hermon J. Smith, Lowell.

Middlesex South.—Drs. E. R. Cogswell, S. W. Driver, Cambridge; E. J. Forster, Charlestown; J. L. Hildreth, Cambridge; H. E. Marion, Brighton.

Norfolk.—Drs. J. W. Chase, Dedham; George Faulkner, Jamaica Plain; F. W. Goss, Roxbury; O. F. Rogers, Dorchester; W. B. Trull, Brookline.

Plymouth.—Drs. E. A. Chase, Brockton; H. W. Dudley, Abington; J. C. Gleason, East Abington; W. R. Howes, Hanover; William Richards, Brockton.

Suffolk.—Drs. Allen M. Sumner, George G. Tarbell, J. Collins Warren, Thomas Waterman, Edward N. Whittier, Boston.

Worcester.—Drs. George E. Francis, Worcester; E. B. Harvey, Westboro'; Emerson Warner, Worcester; C. A. Wilcox, Uxbridge; Albert Wood, Worcester.

Worcester North.—Drs. Josiah M. Blood, Ashby; Caleb C. Field, Leominster; Alfred Miller, Fitchburg; Frederick W. Russell, Winchendon; Edward J. Sawyer, Gardner.

Commissioners of Trials.

Barnstable . . .	George N. Munsell	Harwich.
Berkshire . . .	Abner M. Smith .	Pittsfield.
Bristol North . .	H. C. Bullard . .	N. Attleboro'.
Bristol South . .	F. H. Hooper . .	New Bedford.
Essex North . . .	Walter H. Kimball	Andover.
Essex South . . .	William Mack . .	Salem.
Franklin	A. C. Deane . .	Greenfield.
Hampden	P. LeB. Stickney .	Springfield.
Hampshire . . .	H. B. Stoddard .	Northampton.
Middlesex East . .	Alonzo Chapin . .	Winchester.
Middlesex North .	John O. Green . .	Lowell.
Middlesex South .	Alfred Hosmer . .	Watertown.
Norfolk	Robert Amory . .	Brookline.
Plymouth	H. W. Dudley . .	Abington.
Suffolk	Charles W. Swan .	Boston.
Worcester . . .	L. F. Billings . .	Barre.
Worcester North .	C. C. Field . . .	Leominster.

Officers of the District Medical Societies.

Barnstable.—Dr. George W. Doane, Hyannis, *President;* Dr. S. H. Gould, Brewster, *Vice-President;* Dr. Benjamin D. Gifford, South Chatham, *Secretary;* Dr. Chauncey M. Hulbert, South Dennis, *Treasurer.*

Berkshire.—Dr. J. Leland Miller, Sheffield, *President;* Dr. C. D. Mills, Pittsfield, *Vice-President;* Dr. J. F. A. Adams, Pittsfield, *Secretary;* Dr. W. M. Mercer, Pittsfield, *Treasurer;* Dr. M. E. Jones, Pittsfield, *Librarian.*

Bristol North.—Dr. Charles Howe, Taunton, *President;* Dr. Elton J. Bassett, Taunton, *Vice-President;* Dr. A. S. Deane, Taunton, *Secretary and Treasurer;* Dr. H. H. Sproat, Assonet, *Librarian.*

Bristol South.—Dr. C. D. Stickney, New Bedford, *President;* Dr. J. Dwelley, Fall River, *Vice-President;* Dr. Charles D. Prescott, New Bedford, *Secretary, Treasurer and Librarian.*

Essex North.—Dr. William Cogswell, Bradford, *President;* Dr. Francis A. Howe, Newburyport, *Vice-President;* Dr. George W. Snow, Newburyport, *Secretary and Treasurer;* Dr. Melville C. Towle, Haverhill, *Librarian.*

Essex South.—Dr. Edward Newhall, Lynn, *President;* Dr. Augustus Torrey, Beverly, *Vice-President;* Dr. Charles A. Carlton, Salem, *Secretary;* Dr. William Mack, Salem, *Treasurer;* Dr. David Coggin, Salem, *Librarian.*

Franklin.—Dr. Rollin C. Ward, Northfield, *President;* Dr. Francis J. Canedy, Shelburne Falls, *Vice-President;* Dr. A. C. Walker, Greenfield, *Secretary and Treasurer.*

Hampden.—Dr. William J. Sawin, Chicopee Falls, *President;* Dr. Horatio G. Stickney, Springfield, *Vice-President;* Dr. George S. Stebbins, Springfield, *Secretary, Treasurer and Librarian.*

Hampshire.—Dr. F. C. Greene, Easthampton, *President;* Dr. O. F. Bigelow, Amherst, *Vice-President;* Dr. J. B. Learned, Northampton, *Secretary;* Dr. James Dunlap, Northampton, *Treasurer.*

Middlesex East.—Dr. S. W. Abbott, Wakefield, *President;* Dr. Frederic Winsor, Winchester, *Vice-President;* Dr. Azel Ames, Jr., Wakefield, *Secretary;* Dr. Alonzo Chapin, Winchester, *Treasurer and Librarian.*

Middlesex North.—Dr. D. P. Gage, Lowell, *President;* Dr. Lorenzo S. Fox, Lowell, *Vice-President;* Dr. Abner W. Buttrick, Lowell, *Secretary;* Dr. Nathan B. Edwards, North Chelmsford, *Treasurer;* Dr. M. G. Parker, Lowell, *Librarian.*

Middlesex South.—Dr. George J. Townsend, Natick, *President;* Dr. W. W. Wellington, Cambridgeport, *Vice-President;* Dr. Charles E. Vaughan, Cambridge, *Secretary;* Dr. John Warren Willis, Waltham, *Treasurer;* Dr. E. J. Forster, Charlestown, *Librarian.*

Norfolk.—Dr. Silas E. Stone, Walpole, *President*; Dr. J. P. Maynard, Dedham, *Vice-President*; Dr. A. H. Nichols, Roxbury, *Secretary;* Dr. George J. Arnold, Roxbury, *Treasurer;* Dr. D. S. Fogg, South Dedham, *Librarian.*

Plymouth.—Dr. Nelson B. Tanner, North Abington, *President;* Dr. Henry N. Jones, Kingston, *Vice-President;* Dr. Benjamin F. Hastings, S. Abington, *Secretary, Treasurer and Librarian.*

Suffolk.—Dr. H. W. Williams, Boston, *President;* Dr. Charles D. Homans, Boston, *Vice-President;* Dr. James R. Chadwick, Boston, *Secretary;* Dr. Adino B. Hall, Boston, *Treasurer;* Dr. B. Joy Jeffries, Boston, *Librarian.*

Worcester.—Dr. J. T. O. West, Princeton, *President;* Dr. Henry Clarke, Worcester, *Vice-President;* Dr. W. H. Workman, Worcester, *Secretary;* Dr. John G. Park, Worcester, *Treasurer;* Dr. Lewis S. Dixon, Worcester, *Librarian.*

Worcester North.—Dr. Ira Russell, Winchendon, *President;* Dr. George Jewett, Fitchburg, *Vice-President;* Dr. George D. Colony, Fitchburg, *Secretary and Librarian;* Dr. Alfred Miller, Fitchburg, *Treasurer.*

Massachusetts Medical Society.

PROCEEDINGS OF THE COUNCILLORS.

October 6, 1875.

A Stated Meeting of the Councillors was held in the Rooms of the Society, No. 36 Temple Place, Boston, on Wednesday, October 6, 1875, at 11 o'clock, A.M.

The President, Dr. B. E. Cotting, in the Chair.

The following Councillors were present:—

Barnstable.
Peter Pineo.

Bristol North.
John R. Bronson.

Bristol South.
John H. Mackie,
J. J. B. Vermyne.

Essex North.
David Dana,
Walter H. Kimball.

Essex South.
A. H. Johnson,
Daniel Perley,
Augustus Torrey.

Middlesex East.
S. W. Abbott,
F. F. Brown.

Middlesex North.
Joel Spalding.

Middlesex South.
B. F. D. Adams,
H. C. Chapin,
E. R. Cutler,
Howland Holmes,
H. O. Marcy,
L. R. Stone,
A. C. Webber,
W. W. Wellington,
J. W. Willis.

Norfolk.
George J. Arnold,
Henry Blanchard,
B. E. Cotting,
R. T. Edes,
C. C. Hayes,
C. C. Holmes,
James Morison,
Joel Seaverns,
J. Stedman.

Plymouth.
J. B. Brewster,
J. C. Gleason,
Asa Millet,
Wm. Richards.

Suffolk.
S. L. Abbot,
H. J. Bigelow,
J. N. Borland,
H. I. Bowditch,
B. Brown,
C. E. Buckingham,
S. Cabot,
P. M. Crane,
F. W. Draper,
C. Ellis,
R. H. Fitz,
G. H. Gay,
S. A. Green,
F. B. Greenough,

D. H. Hayden,
R. M. Hodges,
C. D. Homans,
W. Ingalls,
J. B. S. Jackson,
J. F. Jarvis,
B. J. Jeffries,
G. H. Lyman,
Francis Minot,
W. W. Morland,
W. L. Richardson,
G. C. Shattuck,
A. D. Sinclair,
D. H. Storer,
C. W. Swan,
J. B. Treadwell,
C. E. Ware,
H. W. Williams.

Worcester.
J. Sargent,
J. T. O. West,
Jerome Wilmarth.

Worcester North.
Benj. H. Hartwell,
Ira Russell.

Total, 71.

On motion, the reading of the record of the last meeting was dispensed with, it having been printed.

The President nominated the following as delegates from the Massachusetts Medical Society to attend the Annual Meetings of the State Medical Societies of New York and Vermont, and the nominations were confirmed.

To the New York State Medical Society.—Drs. Abner M. Smith of Pittsfield, David P. Smith of Springfield, and Ira Russell of Winchendon.

To the Vermont State Medical Society.—Drs. Oscar S. Roberts of Pittsfield, John M. Harlow of Woburn, and Jonathan Leonard of Sandwich.

The President announced that but three Censors had been chosen by the Hampshire District Medical Society at their last Annual Meeting, and that the Councillors were empowered by the Charter to choose the other two Censors to complete the number required by the By-Laws. The following Fellows were thereupon elected Censors for the Hampshire District:—Drs. C. M. Barton of Hatfield, and H. B. Stoddard of Northampton.

On motion of Dr. Millet, the following was

Voted, That, in the opinion of the Councillors, it is unbecoming and deserving of severest penalty for a Fellow of the Massachusetts Medical Society to publish, directly or indirectly, in any newspaper, *ex parte* or other accounts of the progress or results of any case before a Board of Trial, or before the Councillors or the Society. And if a Board of Trial be in session at the time of such offence, it may at once pass sentence upon the offender, on

complaint of any Fellow or Fellows engaged in, or connected with, said trial.

A communication having been received from Dr. Stephen W. Bowles, of Springfield, to be restored to Fellowship, he having relinquished the same on removal from the State, it was thereupon

Voted, That Drs. G. S. Stebbins, P. LeB. Stickney and David Clark, of Springfield, be a Committee to consider the request of Dr. Bowles, and to report at the next meeting.

A similar request having been also received from Dr. J. E. Sanborn of Rockport, it was

Voted, That Drs. Joseph Garland of Gloucester, B. Haskell of Rockport, and S. W. Torrey of Beverly, be appointed a Committee to consider the request of Dr. Sanborn and to report at the next meeting.

The Committee which was appointed at the last meeting to receive the property of the Society from the retiring Treasurer (Dr. Minot), to audit the same, and to transfer it to the Treasurer elect (Dr. Draper), reported through Dr. Lyman that they had attended to the duty assigned to them. The report thus received is on file.

In accordance with the recommendation of the Committee on Finance, in conformity with By-Law V., eleven Fellows were excused from paying a portion of their dues.

On recommendation by the same Committee, the following, as amended by Dr. Minot, was passed:—

Voted, That Fellows whose assessments are in arrears for one year or more, shall not be entitled to receive any Publications for those years, unless the same be on hand.

The Committee on Resignations reported through Dr. Minot, and recommended as follows. Whereupon it was

Voted, That the following Fellows be permitted to resign:—

Drs. Estes Howe, of Cambridge.
Asahel Alexander Plimpton, of Shirley.
William Gilson Farlow, of Newton.

Voted, That the following Fellows be permitted to retire:—

Drs. Alvan Smith, of Monson.
Henry Robert Vaille, of Springfield.
Thaddeus Kingsley DeWolf, of Chester.
John Kinsley Palmer, of Cambridge.

Voted, That the following Fellows be dropped for non-payment of assessments:—

Drs. Alfred Augustus Stocker, of Newton.
William H. Parks, of Great Barrington.
James Smythe, of Boston.
Reed Bartlett Granger, of Boston.
Francis Jewett Stevens, of Haverhill.
Moses W. Kidder, of Watertown.

Dr. Bowditch, in behalf of a majority of the Committee appointed to consider whether some plan cannot be devised whereby a woman who has been thoroughly educated in medicine and surgery can receive the rights and privileges which membership of this Society gives to all Fellows belonging to it, presented a report, and moved the passage of the following resolution:—

Resolved, That hereafter the Censors are directed to examine all applicants, whether male or female, who may apply for license to practise under the laws of this Commonwealth.

The report was signed by Henry I. Bowditch, S. Cabot, Joseph Sargent.

Dr. Wellington, in behalf of Dr. Fisk and himself, presented a minority report. After an animated discussion, in which Drs. Bowditch, Cabot, Pineo, Wellington, Williams, Shattuck, H. Holmes and Bronson took part, it was moved by Dr. Wellington that the whole subject of the admission of women into the Massachusetts Medical Society be indefinitely postponed. The ayes and nays being called for, the motion for indefinite postponement was adopted.

At 1 o'clock, P.M., the Councillors adjourned to partake of "simple refreshments" provided for them.

FRANCIS W. GOSS,
Recording Secretary.

February 2, 1876.

A Stated Meeting of the Councillors was held in the Rooms of the Society, No. 36 Temple Place, Boston, on Wednesday, February 2, 1876, at 11 o'clock, A.M.

The President, Dr. B. E. Cotting, in the Chair.

The following Councillors were present:—

Barnstable.
Peter Pineo.

Bristol North.
John R. Bronson,
Joseph Murphy,
Silas D. Presbrey.

Bristol South.
W. W. Comstock,
R. T. Davis,
John H. Mackie,
J. J. B. Vermyne.

Essex North.
David Dana,
Walter H. Kimball.

Essex South.
A. H. Johnson,
George A. Perkins,
Daniel Perley.

Middlesex East.
S. W. Abbott,
F. F. Brown,
Frederic Winsor.

Middlesex North.
Nathan Allen,
George E. Pinkham,
Charles A. Savory,
Joel Spalding.

Middlesex South.
B. F. D. Adams,
H. C. Chapin,
Howland Holmes,
J. T. G. Nichols,
L. R. Stone,
J. L. Sullivan,
H. P. Walcott,
W. W. Wellington,
J. W. Willis.

Norfolk.
Robert Amory,
George J. Arnold,
B. E. Cotting,
F. F. Forsaith,
C. C. Hayes,
C. C. Holmes,
J. Stedman,
C. C. Tower.

Plymouth.
J. C. Gleason,
Asa Millet,
Wm. Richards.

Suffolk.
S. L. Abbot,
J. Ayer,
H. H. A. Beach,
J. N. Borland,
H. I. Bowditch,
B. Brown,
C. E. Buckingham,
P. M. Crane,
Hall Curtis,
H. Derby,
F. W. Draper,
R. H. Fitz,
S. A. Green,
J. O. Green,
F. B. Greenough,
A. B. Hall,
D. H. Hayden,
R. M. Hodges,
C. D. Homans,
J. Homans,
W. Ingalls,
J. B. S. Jackson,
B. J. Jeffries,
F. I. Knight,
G. H. Lyman,
Francis Minot,
W. W. Morland,
W. L. Richardson,
A. D. Sinclair,
D. H. Storer,
C. W. Swan,
O. F. Wadsworth,
C. E. Ware,
H. W. Williams.

Worcester.
J. T. O. West,
Jerome Wilmarth.

Worcester North.
Benj. H. Hartwell,
George Jewett,
Ira Russell.

Total, 79.

The Secretary's record of the previous meeting was read and accepted.

Delegates were appointed to attend the Annual Meeting of other State Medical Societies, as follows :—

Maine.—Drs. R. T. Davis of Fall River, J. B. Brewster of Plymouth, F. H. Brown of Boston, E. N. Whittier of Boston.

New Hampshire.—Drs. D. Perley of Lynn, C. C. Field of Leominster, A. C. Walker of Greenfield, H. Holmes of Lexington.

Rhode Island.—Drs. C. A. Wilcox of Uxbridge, D. Homer Batchelder of Danversport, R. T. Edes of Roxbury, G. W. Snow of Newburyport.

Connecticut.—Drs. A. LeB. Monroe of Medway, A. C. Deane of Greenfield, C. C. Tower of Weymouth, A. L. Mason of Boston.

New Jersey.—Drs. C. B. Porter of Boston, O. S. Lovejoy of Haverhill, A. J. Whitney of West Newton, E. G. Cutler of Boston.

Wisconsin.—Dr. Isaac H. Stearns of Milwaukee, Wis.

The following Standing Committee were appointed :—

To examine the Treasurer's Accounts:—Drs. W. L. Richardson of Boston, G. J. Arnold of Roxbury.

To examine the By-Laws of District Societies:—Drs. A. Hosmer of Watertown, William Cogswell of Bradford, J. R. Bronson of Attleboro'.

To examine the Library and Cabinet:—Drs. H. O. Marcy of Cambridge, J. Seaverns of Roxbury.

The Committee on Membership and Resignations reported through Dr. Ayer, and recommended that the following become Retired Fellows :

Drs. David Augustus Grosvenor, of Danvers.
Horatio Nelson Page, of Chelsea.

Also, that the following be dropped under By-Law VI. :

Drs. W. H. Logan, of Toledo, Ohio.
B. S. Lewis, of New Haven, Conn.

Also, that the following be dropped under By-Law VII. :

Drs. Joseph Chadwick Sanborn, of Boston.
Joseph E. Bartlett, of Boston.
C. W. Barnes, of Hudson.
G. M. Nichols, of East Cambridge.
Carl Both, of Boston.

The recommendations were adopted and the report was accepted.

Voted, That Drs. Stephen W. Bowles of Springfield, J. E. Sanborn of Rockport, W. O. G. Springer of Yarmouthport, and John Stearns of Boston, be readmitted to Fellowship in the Society.

Dr. Williams, in behalf of the Committee on By-Laws to which was committed to report a more definite interpretation of the term "reside" as it occurs in the Charter and By-Laws, read a report stating that the Committee "are unanimously agreed that the word 'reside' is invariably used in the sense of legal residence. They therefore recommend that this construction be put upon the word."

After a discussion in which Drs. Bowditch, Williams, Bronson, C. D. Homans, Lyman, Millet, Arnold, Knight and Willis took part, on full vote of the Councillors, the recommendation of the Committee was adopted, without a dissenting vote.

The President stated that a request had been received from the Centennial Medical Commission, that the Society send Delegates to the International Medical Congress to be held in Philadelphia September 4th to 9th, 1876. The proposed plan of organization entitles each State Medical Society to the same number of Delegates as the State has Representatives in the Congress of the United States. After some remarks by Dr. Bronson, giving an account of the plans of the Congress, it was

Voted, That the Society send Delegates to the International Medical Congress, and that these Delegates be nominated by the Chair.

The President nominated the following Principals, or their Alternates, to represent the Society in the International Medical Congress:

Principals.	*Alternates.*
Drs. J. B. S. Jackson, of Boston.	Drs. Francis Minot, of Boston.
D. P. Smith, of Springfield.	H. W. Dudley, of Abington.
S. A. Fisk, of Northampton.	W. W. Godding, of Taunton.
D. W. Cheever, of Boston.	Joseph Sargent, of Worcester.
J. F. A. Adams, of Pittsfield.	G. H. Pillsbury, of Lowell.
W. W. Wellington, of Cambridgeport.	A. H. Johnson, of Salem.
J. H. Mackie, of New Bedford.	S. E. Stone, of Walpole.
James C. White, of Boston.	S. W. Abbott, of Wakefield.
J. W. D. Osgood, of Greenfield.	T. N. Stone, of Provincetown.
I. Russell, of Winchendon.	William Cogswell, of Bradford.
J. Collins Warren, of Boston.	T. B. Curtis, of Boston.

Voted, To accept the above nominations, and if any vacancies occur in the Delegation that the officers of the Society be empowered to fill them.

Dr. R. T. Davis of Fall River, for the Bristol South Medical Society, read a paper on the "Caisson Disease," or affections resulting from the action of compressed air on workmen employed in laying the foundations of bridges under deep water. At the conclusion of the discussion of the paper, it was

Voted, That Dr. Davis be requested to read his paper, with such modifications as he finds occasion to make in it, to the Society at its next Annual Meeting.

Dr. S. W. Abbott reported for the Middlesex East District Medical Society in a paper on "The Metric System—ought the Medical Profession to adopt it?" There not being time for further discussion of the matter, it was

Voted, That a Committee of three be appointed to confer with the Committee from the Institute of Technology—who had appealed to the Massachusetts Medical Society—and to report to the Society at its Annual Meeting whether it should join them and others in an application to Congress for the establishment by law of the Metric System. It was also

Voted, That Drs. S. W. Abbott, T. Dwight and E. S. Wood constitute this Committee.

At 1.30 o'clock, P.M., the Councillors adjourned to partake of refreshments that had been provided for them.

FRANCIS W. GOSS,
Recording Secretary.

Annual Meeting.

The Annual Meeting of the Councillors was held at the Rooms of the Society, No. 36 Temple Place, Boston, on Tuesday, June 13, 1876, at 7 o'clock, P.M.

The President, Dr. B. E. Cotting, in the Chair.

The following Councillors were present:—

Barnstable.
Jonathan Leonard,
W. J. Nickerson,
Peter Pineo.

Berkshire.
O. J. Brown,
C. T. Collins,
F. F. D'Avignon,
F. K. Paddock.

Bristol North.
Charles Howe.

Bristol South.
George Atwood,
W. W. Comstock,
F. H. Hooper,
John H. Mackie.

Essex North.
William Cogswell,
Henry J. Cushing,
George W. Garland,
James C. How.

Essex South.
William W. Eaton,
J. S. Emerson,
Joseph Garland,
Arthur Kemble,
William Mack,
Daniel Perley.

Franklin.
J. W. D. Osgood.

Hampden.
Cyrus Bell,
T. L. Chapman,
William J. Sawin,
P. LeB. Stickney.

Hampshire.
James Dunlap,
Samuel A. Fisk,
John Yale.

Middlesex East.
John M. Harlow,
Frederic Winsor.

Middlesex North.
Charles A. Savory.

Middlesex South.
Horace Chapin,
Stephen W. Driver,
Jonas C. Harris,
R. L. Hodgdon,
Howland Holmes,
Otis E. Hunt,
J. T. G. Nichols,
Lincoln R. Stone,
C. E. Vaughan,
John W. Willis.

Norfolk.
George J. Arnold,
Henry Blanchard,
B. E. Cotting,
Robert T. Edes,
David S. Fogg,
F. F. Forsaith,
Charles C. Hayes,
C. C. Holmes.

Plymouth.
J. B. Brewster,
Asa Millet.

Suffolk.
S. L. Abbot,
James Ayer,
H. H. A. Beach,
H. J. Bigelow,
J. N. Borland,
B. Brown,
Samuel Cabot,
D. W. Cheever,
F. W. Draper,
Calvin Ellis,
G. H. Gay,
S. A. Green,
A. B. Hall,
D. H. Hayden,
R. M. Hodges,
C. D. Homans,
John Homans,
William Ingalls,
J. B. S. Jackson,
J. F. Jarvis,
B. J. Jeffries,
G. H. Lyman,
Francis Minot,
W. W. Morland,
W. L. Richardson,
G. C. Shattuck,
C. W. Swan,
J. B. Treadwell,
J. E. Tyler,
O. F. Wadsworth,
C. E. Ware,
J. C. White,
H. W. Williams.

Worcester.
Henry Clarke,
D. S. Fiske,
Thomas H. Gage,
Oramel Martin,
Joseph Sargent,
J. T. O. West,
C. A. Wilcox.

Worcester North.
Caleb C. Field,
B. H. Hartwell,
Ira Russell.

Total, 96.

The Secretary's record of the previous meeting was read and accepted.

The President read the names of the Nominating Committee, as chosen by the District Societies, in accordance with the standing resolve of the Councillors.

The Committee was composed as follows :—

Drs.	Pineo	Barnstable.
	Collins	Berkshire.
	Howe	Bristol North.
	Comstock	Bristol South.
	Cogswell	Essex North.
	Mack	Essex South.
	Osgood	Franklin.
	Stickney	Hampden.

Dunlap	Hampshire.
Savory	Middlesex North.
Walcott	Middlesex South.
Winsor	Middlesex East.
Blanchard	Norfolk.
Hubbard	Plymouth.
Williams	Suffolk.
Martin	Worcester.
Russell	Worcester North.

The member from Middlesex South being absent, on motion of Dr. Lyman the Councillors present from that District were allowed to fill the vacancy, and Dr. Vaughan was substituted as the representative from Middlesex South.

The Secretary read the names of new and of deceased Fellows.

The Treasurer, Dr. Draper, read his annual report.

The Auditing Committee reported, through Dr. W. L. Richardson, that the accounts were correctly cast, and properly vouched.

The Treasurer's report was then accepted.

On recommendation of the Committee on Finance, the following was

Voted, Whenever a Fellow of this Society owing more than one assessment pays for one year or more, the payment or payments so made shall be invariably considered as for the assessments longest due, and for none others.

The Librarian, Dr. Hayden, and the Committee on the Library presented their reports. On motion of this Committee the following were passed:

Resolved, That whenever any publication of this Society shall be sent out to its Fellows, the Librarian of the Society shall send a notice thereof to the several Librarians of the District Societies, and it shall be the duty of said District Librarians to give notice of each and every such distribution to their respective District Societies at the meetings next after such distributions; in order that any Fellow, who may fail to receive his copy, may apply for it at once, according to rule, to the Librarian of the State Society.

Resolved, That the Librarian be authorized to retain extra copies of all the publications of this Society, and to give them out to other Societies desiring to make exchanges; and to receive and care for all books and publications which he may obtain by these exchanges in such suitable place as he, with the consent of the Committee on the Library, may deem safe and proper.

The Committee on Publications reported through Dr. Shattuck that the duties of the committee had been attended to. The report is on file.

The Committee on Membership and Resignations reported through Dr. Ayer and recommended that the following Fellows be allowed to resign :—

Drs. John S. H. Fogg, of South Boston.
John W. Foye, of Boston.
Samuel Duncan, of Williamstown.

Also, that the following Fellows be allowed to retire :—

Drs. Oramel Martin, of Worcester.
N. G. Trow, of Sunderland.
Daniel H. Batchelder, of Danversport.
David Parker, of Gardner.

Also, that the following be dropped under By-Law VII. for non-payment of dues :—

Drs. E. F. Spaulding, of East Boston.
C. A. Burnham, of Boston.

Also, that one hundred and twelve Fellows, who have at various times removed from the State, and are named in the following list, be dropped, as they have not "punctually paid the annual assessment" and are now delinquent from three to thirty-five years.

A. Anderson, Vallejo, Cal.
G. B. Balch, Yonkers, N. Y.
N. Barrows, Meriden, N. H.
C. K. Bartlett, St. Peter, Minn.
Ezra Bartlett, Exeter, N. H.
F. D. Beane, New York
C. M. Billings, Nashua, Iowa
J. E. Blake, New York
G. A. Blake, Walpole, N. H.
J. Blake, Gilmanton, N. H.
S. C. Blake, Chicago
C. Bliss, Willimantic, Ct.
Horatio Bridge, New York
Orlando Brown, Washington, Ct.
P. R. Brown, New York
W. A. Browne, New York
F. N. Burdick, St. Louis
J. T. Buttrick, Newport, R. I.
S. H. Carney, New York
E. W. Carpenter, Brooklyn
G. A. Collamore, Toledo, O.
D. M. Cool, Chicago
C. G. Corey, Granville, N. H.
J. Z. Currie, Fredericton, N. B.

Josiah Curtis, Knoxville, Tenn.
A. H. Daniels, Breedsville, Mich.
I. A. Darling, W. Bangor, N. Y.
F. A. Davis, New York
I. P. Davis, late of Lenox
O. O. Davis, Northfield, Vt.
R. H. Derby, New York
O. C. DeWolf, Chicago
J. E. DeWolf, Portland, Me.
W. Dickinson, St. Louis
D. M. Dill, Newark, N. J.
S. W. Dodd, P. E. Island
E. Dyer, Pittsburg, Pa.
C. G. A. Eayrs, Nashua, N. H.
C. W. Ensign, Madison, O.
J. W. Ford, Pierpont, N. H.
F. Foster, Sandy Hill, N. Y.
S. A. Foster, New York
L. French, Manchester, N. H.
Otis E. French, New York
G. E. Frothingham, Ann Arbor, Mich.
D. M. Fulton, Philadelphia
J. B. Fulton, late of N. England Village.
C. F. George, Nashua, N. H.
C. N. Germaine, Syracuse, N. Y.
S. R. Gerry, San Francisco
C. Q. Goodwin, Pittston, Me.
R. J. P. Goodwin, Manchester, N. H.
John M. Grosvenor, New York
John Green, St. Louis, Mo.
C. W. Greene, New York
W. W. Greene, Portland, Me.
R. G. Griswold, Stamford, Ct.
L. H. Grosvenor, Pelham, N. H.
A. Hall, Alfred, Me.
C. E. Hall, Greenville, N. H.
R. J. Hallaren, Nashua, N. H.
W. G. Hanaford, New York
G. W. Handy, St. Louis
H. T. Hanks, New York
M. P. Hanson, Milwaukee, Wis.
Richard Harrison, St. John, N. B.
S. A. Holman, St. Louis
J. E. Herrick, New York
C. F. Heywood, New York
G. C. Hill, Keene, N. H.
J. Hobbins, Madison, Wis.
J. G. Holland, New York
John Homer, Belfast, Me.
Henry Hooper, Chicago
J. Horne, Summersworth, N. H.
Otis Hoyt, Hudson, Wis.
C. L. Hubbell, Troy, N. Y.
O. M. Humphrey, Minneapolis, Minn.
J. W. Hutchins, Chicago
C. C. Jewett, Brooklyn
H. H. Johnson, Belfast, Me.
J. B. Johnson, St. Louis
J. T. Johnson, Washington
G. W. Jones, Portland
R. K. Jones, Bangor
Azariah Judson, Tonawanda, Pa.
J. T. Goddard, New York
Jona. Cass, New York
John W. Barker, Connecticut
W. H. Bradley, late of Lowell
E. E. Braun, late of Charlestown
C. E. Briggs, St. Louis
W. H. Brown, Maine
W. B. Burge, late of Taunton
E. P. Burton, Iowa
John S. Carter, unknown
H. C. Champlin, Connecticut
W. S. Childs, late of Pittsfield
Nathan Adams, New Haven, Ct.
H. F. Aten, New York
E. Barber, Brooklyn
N. S. Barnes, late of Pittsfield
H. H. Beals, late of Pittsfield
C. R. Bissell, late of Pittsfield
G. F. Brickett, late of Lowell
E. Brink, late of Pittsfield
H. Bryant, Independence, Iowa
F. N. Burgess, Nova Scotia
Henry Carpenter, Michigan
E. N. Chamberlain, late of Millbury
A. P. Chase, Bangor, Me.
A. S. Church, New York

The Committee on Ethics and Discipline reported through Dr. Millet. The report is on file.

A vacancy having occurred in the Alternate Delegation to the International Medical Congress by the death of Dr. Thomas N. Stone, Dr. Peter Pineo was appointed to fill the vacancy.

Voted, That "the current year," By-Law I. p. 10, line 2, for the purposes of said By-Law, begin on the fifteenth of April of each year; all resolves or votes to the contrary are hereby annulled.

Voted, That, on the concurrence of the Society, the following changes be made in By-Law I.:—After Society in line 15, change semicolon to comma, and insert "and possesses a diploma or its equivalent from such school."

On motion of Dr. Lyman it was

Voted, That the ex-Presidents of the Society be invited to attend the Councillors' Meetings, and that the Secretary be directed to send them the usual notice.

Voted, That the Secretaries of District Societies be instructed to notify Delegates to the American Medical Association that they must inform the Recording Secretary of the State Society if they intend to be present at the meetings of the Association, in order that credentials may be sent to them.

Voted, That the Secretary notify Delegates to other State Medical Societies that they will be expected to report at the next Councillors' Meeting.

The Committee on Nominations reported the following list of Candidates for the officers of the Society for the ensuing year, and the same were duly elected by ballot:—

For *President*, ... Dr. William Cogswell.
Vice President, ... Dr. J. W. D. Osgood.
Treasurer, ... Dr. F. W. Draper.
Corresponding Secretary, . . . Dr. C. W. Swan.
Recording Secretary, ... Dr. F. W. Goss.
Librarian, ... Dr. D. H. Hayden.

By acclamation, Dr. J. R. Bronson of Attleboro', was chosen Orator, and

Dr. Alfred Hosmer of Watertown, Anniversary Chairman for the next Annual Meeting.

After considerable discussion it was

Voted, That the next ***Annual Meeting*** be held in Boston, on ***the second Wednesday in June, 1877.***

On nomination of the President the following Standing Committees were appointed:

Committee of Arrangements.

R. Amory, C. J. Blake, J. C. Warren,
A. H. Nichols, T. Dwight, W. L. Richardson.

On Publications.

G. C. Shattuck, R. M. Hodges, W. W. Morland.

On Resignations.

J. Ayer, F. Minot, J. C. White.

On Finances.

G. H. Lyman, C. D. Homans, W. W. Wellington.

To procure Scientific Papers.

H. W. Williams, C. Ellis, F. K. Paddock,
G. S. Stebbins, E. Wigglesworth, Jr.

On Ethics and Discipline.

C. E. Buckingham, D. W. Cheever, R. L. Hodgdon,
G. J. Townsend, G. E. Francis.

The President announced that a donation of one thousand dollars had been offered to the Councillors by a friend of the Massachusetts Medical Society, the income of which was to be expended for "simple refreshments" to be partaken of by the Councillors immediately after the adjournment of the Stated Meetings in October and February. The donation was accepted with applause.

After the passage by rising vote of a resolution on unanimous motion of the Committee on Nominations expressive of the thanks of the Councillors to the retiring President, Dr. Cotting, "for his unexampled and untiring efforts in behalf of the Society," and his reply to the same, at 9 o'clock P.M., the Councillors adjourned to partake of a collation provided for them by the President.

FRANCIS W. GOSS,
Recording Secretary.

Massachusetts Medical Society.

PROCEEDINGS OF THE SOCIETY.

ANNUAL MEETING.

First Day.

The Society met in the hall of the Lowell Institute, Boston, on Tuesday, June 13, 1876, at 11 o'clock, A.M., the President, Dr. B. E. Cotting, in the Chair.

The reading of Scientific Papers was begun as follows :—

I.—*Embolism of the Arteries of the Extremities.* By Albert Wood, M.D., of Worcester.

II.—*The Thermometer as an Aid in Diagnosis and Treatment of Disease.* By William F. Southard, M.D., of Baldwinsville.

III.—*Dietetics of Infancy.* By Orlando J. Brown, M.D., of North Adams.

IV.—*Some of the Physiological and Therapeutical Relations of Physical Exercise.* By James J. Putnam, M.D., of Boston.

V.—*Tincture of Iodine in Albuminuria resulting from Congestion of the Kidneys.* By Frederick F. D'Avignon, M.D., of North Adams.

VI.—Reports from Suffolk, Bristol North, Hampden and Worcester District Societies were read by E. Wigglesworth, Jr., M.D., of Boston.

At 1.50 P.M. the Society adjourned till 3 o'clock, when the reading of papers was continued as follows:

VII.—*Some Points in the Pathology and Treatment of Cholera Infantum.*
By EDWARD WALDO EMERSON, M.D., of Concord.

VIII.—*Diet of the Sick.* By MARSHALL CALKINS, M.D., of Springfield.

IX.—*The Crepitant Rale, its Nature and Conditions of Production.* By WM. H. WORKMAN, M.D., of Worcester.

X.—*The Caisson Disease.* By ROBERT T. DAVIS, M.D., of Fall River. (This paper was read by title, and referred to the Committee on Publications.) In its place was read:—

XI.—*The Sanitary Condition of the City Hospital.* By EDWARD COWLES, M.D., of Boston.

At 5, P.M., the Society adjourned.

FRANCIS W. GOSS,
Recording Secretary.

SECOND DAY.

The Society met in the hall of the Lowell Institute, Boston, on Wednesday, June 14, 1876, at 9 o'clock, A.M., for the Anniversary exercises.

The President, Dr. B. E. Cotting, in the chair.

The Secretary's record of the last annual meeting was read and accepted.

The Treasurer's annual report was read.

The Secretary read the names of Fellows admitted since the last annual meeting, and of Fellows whose deaths had been reported.

List of Fellows admitted since June 8, 1875.

1876.	Adams, Francis Wayland,	Royalston.
1875.	Atwood, Edward Carleton,	Westford.
1875.	Barden, Edward Emery,	Rockport.
1876.	Bell, Read Letts,	Granville, O.
1876.	Bell, William Appleton,	Somerville.
1876.	Biggs, Frederick Pfeiffer,	Valparaiso, Chili.
1875.	Blair, Harvey Lester,	Blandford.
1875.	Bowen, Seranus,	Boston.
1876.	Bridgham, Jairus Greenwood,	Woburn.
1876.	Brown, Charles William,	Boston.
1876.	Brown, John Coffin Jones,	Boston.
1875.	Brownell, Nathan Pike,	South Scituate.
1876.	Chadbourne, Frank Watts,	Roxbury.
1875.	Chapin, Frederick Wilcox,	Springfield.
1876.	Chipman, William Reginald,	Chelsea.
1876.	Colman, Nathaniel Bryant,	Brookline.
1876.	Cutter, Charles Kimball,	Boston.
1875.	Fay, James Monroe,	Chester.
1876.	Forsyth, Frank Lyman,	Weymouth.
1875.	Gay, Almon DeBois,	North Cambridge.
1876.	Garland, Joseph Everett,	Boston.
1875.	Hammond, William Penn,	Charlestown.
1875.	Harding, Edward Mitchell,	Woburn.
1875.	Hodges, Edward Francis,	Boston.
1876.	Hooper, Frank Henry,	Boston.
1876.	Howe, Octavius Thorndike,	Cambridge.
1875.	Hunt, David,	Boston.
1876.	Hutchinson, Marcello,	Wakefield.
1876.	Keene, Joseph Wadsworth,	Bremen, Me.
1876.	Kimball, Arthur Herbert,	Cummington.
1876.	Kranichfeld, Wilhelm,	Roxbury.
1876.	Lathrop, William Henry,	Tewksbury.
1876.	Lopez, Rafael,	Boston.
1876.	Lyman, John Chester,	Boston.
1876.	Mather, Edward Elias,	Williamstown.
1875.	McClean, George Chesley,	Springfield.
1876.	McGrath, Eugene John,	Boston.
1876.	McMonagle, Beverly,	Sussex, N. B.
1876.	Norfolk, Walter Jenks,	Westfield.
1876.	O'Connell, John David,	Vineyard Haven.
1876.	Otis, Edward Osgood,	Cambridge.
1876.	Paddock, William Leroy,	Pittsfield.
1875.	Phelps, Rollen Horace,	Littleton.
1876.	Richardson, Maurice Howe,	Fitchburg.
1876.	Robinson, Walter Scott,	Taunton.

1876.	Smith, Henry H., . . .	Sheffield.
1875.	Somers, John Edward, . .	N. Cambridge.
1875.	Spaulding, Edward Reynolds,	Worcester.
1876.	Spring, Charles Edward, .	Holliston.
1876.	Swasey, George Brooks, .	Westminster.
1875.	Thomas, Flavel Shurtleff, .	Hanson.
1876.	Tilden, Frank Elmer, . .	North Easton.
1875.	Tupper, Augustus Maclanchlan,	Pigeon Cove.
1876.	Van Slyck, David Bernard, .	Brookline.
1876.	Wallace, Alonzo Stewart, .	Boston.
1875.	Weaver, John Erastus, . .	Lowell.
1876.	Wheaton, Charles Augustus, .	Northfield, Minn.
1875.	Willmot, Thomas, . . .	Millville.
1876.	Wingate, Uranus O. B. . .	Wellesley.
1875,	Young, Aaron, . . .	Boston.

Total, 60.

List of Deceased Fellows.

Admitted.	Name.	Residence.	Date of Death.	Age.
1852	Allen, Ira.....	Roxbury	Aug. 29, 1875	63
1869	Ames, Charles Peter.....	N. Orleans, La.	May 24, 1875	33
1875	Barden, Edward Emery.....	Rockport.....	Dec. 3, 1875	29
1846	Cleaveland, Charles D.....	Boston	Nov. 20, 1875	57
1855	Cooke, McLauren Furber...	Chelsea	Nov. 11, 1875	54
1834	Davis, Kendall.....	Athol.....	Sept. 20, 1875	72
1865	Drowne, Henry W.....	Hudson, N. Y..	Feb. 8, 1875	60
1844	Gardner, Augustus Kinsley.	New York.....	April 7, 1876	54
1868	Haskins, Alfred Leonard...	Boston	April 3, 1876	40
1844	Holman, Jonas Welch.....	N. Stoning'n Ct	May 16, 1873	62
1832	Howe, Samuel Gridley.....	South Boston..	Jan. 9, 1876	74
1817	Johnson, Samuel.....	Salem.....	May 28, 1876	85
1827	Lewis, Winslow.....	Boston	Aug. 3, 1875	76
1842	Mifflin, Charles.....	Boston	Dec. 9, 1875	70
1819	Moore, Francis.....	W. Sparta, N. Y.	May 16, 1856	75
1831	Morton, Cyrus.....	Halifax	May 18, 1873	76
1820	Peck, Gustavus Darling....	Newfield, N. J.	Mar. 21, 1875	87
1869	Perry, Edward Everett....	Boston	Sept. 14, 1875	
1833	Prescott, William.....	Concord, N. H.	Oct. 18, 1875	87
1852	Renton, George.....	Boston	July 8, 1875	47
1863	Rood, James Timothy.....	Holden	Oct. 26, 1875	42
1836	Ruggles, Nathaniel.....	Marston's Mills	1876	80
1837	Salisbury, Stephen.....	Brookline	Sept. 13, 1875	63
1875	Spaulding, Edw. Reynolds..	Worcester.....	April 16, 1876	31
1838	Stone, John Osgood.....	New York.....	June 7, 1876	61
1862	Stone, Thomas Newcomb.....	Provincetown..	May 15, 1876	58
1822	Sweetser, William.....	Brooklyn, N. Y.	Oct. 14, 1875	78
1840	Tower, George.....	Boston.....	May 11, 1876	65
1871	Towle, Melville Cox.....	Haverhill.....	Dec. 21, 1875	39
1841	Trull, Samuel.....	Woburn.....	May 24, 1876	61
1839	Wells, David.....	Lowell	Feb. 22, 1876	72
1852	Wilson, Milo.....	Shelburne Falls	Sept. 3, 1875	67

Total, 32

The Society voted to concur by joint resolution in the resolve of the Councillors passed October 6, 1875, regarding *ex parte* reports of Boards of Trial.

On motion of Dr. Chadwick it was

Resolved, That the Massachusetts Medical Society do join with other Medical Societies in petitioning Congress to make such appropriations as may be needed to print the new Catalogue of the Library of the Surgeon General's office in Washington.

Voted, That when the Society adjourn, it be to meet at 3 o'clock P.M., on Wednesday, October 4, 1876, at the place where the Councillors shall meet on that day, to act on an amendment to the By-Laws.

The following delegates from other State Medical Societies were introduced by the President and invited to address the Society :

Maine Medical Society—Drs. A. P. Snow, E. H. Hill.

New Hampshire Medical Society—Drs. G. P. Conn, A. H. Crosby, T. Wheat, G. E. Hersey.

New Jersey Medical Society—Dr. J. B. James.

Dr. A. H. Crosby made a brief address, in which he referred to the recent acts of the Legislature of New Hampshire, for the prevention of the inroads of "medical tramps."

Papers were read as follows :—

XII.—*Vaginal Lithotomy.* By J. Collins Warren, M.D., of Boston.

XIII.—*The Metric System—ought the Medical Profession to adopt it ?* By Samuel W. Abbott, M.D., of Wakefield, chairman of the committee appointed by the Councillors, at their meeting in February last, to report to the Society at its annual meeting whether it should join the Massachusetts Institute of Technology, and others, in an application to Congress for the establishment of the Metric System by law. The paper closed with offering the following resolution :

Resolved, That the Massachusetts Medical Society do hereby accept the invitation extended to them by the Massachusetts Institute of Technology, and will join them in an application to Congress for the establishment of the Metric System by law.

In the discussion which followed, Dr. Sullivan of Malden strenuously opposed the adoption of the metric system by law.

Drs. Curtis of Boston and E. S. Wood of Cambridge favored the introduction of the system. After the discussion, the Society passed the resolution offered by Dr. Abbott, and the committee was authorized to carry out its provisions.

The President announced that the Emperor of Brazil had signified his intention to visit the Society to hear the Annual Discourse, and asked the Society to concur with the Councillors in permitting the presentation of the Society's diploma of Foreign Honorary Membership at that time. The request was unanimously granted.

Just before 12 o'clock the Emperor arrived and was received by the rising of the Fellows. The President welcomed him and presented him with the Honorary Diploma, which he accepted.

At 12 o'clock the Annual Discourse was delivered by Dr. P. LeB. Stickney of Springfield.

At the conclusion of the address the Society presented an appropriate vote of thanks to the orator.

The retiring President introduced the President elect, Dr. William Cogswell, who responded briefly.

At 1 o'clock, P.M., the Society adjourned to the Music Hall, where, to the number of nearly six hundred, the Fellows entered upon the exercises of the Anniversary Dinner.

FRANCIS W. GOSS,
Recording Secretary.

TREASURER'S REPORT, 1876.

THE Treasurer respectfully reports that he has received for the Society during the last year $8,889.92, including a balance of $34.14 from the last account; that he has expended $8,527.78; and that the balance in his hands amounts to $362.14. The receipts during the year were sufficient to permit the payment in full of the Society's debt.

The items of receipt and expenditure will be found in the appended analysis account.

The Society's property is as follows:

Shattuck Fund . .	$9,166.87
Phillips Fund, . .	10,000.00
General Fund, . .	11,254.30
	$30,421.17

Respectfully submitted,

F. W. DRAPER,
Treasurer.

DR. F. W. Draper, Treasurer, in Account with Massachusetts Medical Society. CR.

Balance from last account,			$34 14
Assessments collected by DIST. TREAS. as follows:			
Barnstable,	$100 00		
Berkshire,	235 00		
Bristol North,	50 00		
Bristol South,	290 00		
Essex North,	225 00		
Essex South,	165 00		
Franklin,	127 00		
Hampden,	150 00		
Hampshire,	165 00		
Middlesex East,	225 00		
Middlesex North,	50 00		
Middlesex South,	295 00		
Norfolk,	280 00		
Plymouth,	120 00		
Suffolk,	1275 00		
Worcester,	535 00		
Worcester North,	75 00		4362 00
Assessments paid to the Treasurer independently of the District Treasurers,			2059 00
Interest — General Fund,	$731 46		
Shattuck Fund,	607 92		
Phillips Fund,	570 62		
			1910 00
Rents,			494 78
Diplomas,			30 00
			$8889 92

Refunded to DISTRICTS: Barnstable,	$23 75		
Berkshire,	65 25		
Bristol North,	3 75		
Bristol South,	25 75		
Essex North,	23 75		
Essex South,	14 50		
Franklin,	15 60		
Hampden,	10 25		
Hampshire,	26 50		
Middlesex East,	20 25		
Middlesex North,	3 50		
Middlesex South,	66 00		
Norfolk,	34 75		
Plymouth,	15 25		
Suffolk,	111 40		
Worcester,	57 50		
Worcester North,	18 00		535 75
Payment of the Debt in full,			2000 00
Publications (including printing),			2616 48
Rent, Taxes, Gas and Care of Rooms,			647 93
Interest,			163 40
Exp. of Annual Meeting, 1875: Dinner,	1297 50		
Hall,	200 00		
Music,	130 00		
Sundries,	134 25		1761 75
Treasurer's Salary,			400 00
Incidental,			264 47
Censors,			138 00
			8527 78
Balance on hand,			362 14
			$8889 92

Officers of the Massachusetts Medical Society.

1876–77.

Chosen June 13, 1876.

WILLIAM COGSWELL,	Bradford,	President.
J. W. D. OSGOOD,	Greenfield,	Vice-President.
FRANK W. DRAPER,	Boston,	Treasurer.
CHARLES W. SWAN,	Boston,	Cor. Secretary.
FRANCIS W. GOSS,	Roxbury,	Rec. Secretary.
DAVID H. HAYDEN,	Boston,	Librarian.
JOHN R. BRONSON,	Attleboro',	Orator.
ALFRED HOSMER,	Watertown,	Anniv. Chairman.

Committee of Arrangements.

R. Amory,	Thomas Dwight,
A. H. Nichols,	J. Collins Warren,
C. J. Blake,	W. L. Richardson.

Standing Committees.

On Publications.

G. C. Shattuck, R. M. Hodges, W. W. Morland.

On Resignations.

J. Ayer, F. Minot, J. C. White.

On Finances.

G. H. Lyman, C. D. Homans, W. W. Wellington.

To Procure Scientific Papers.

H. W. Williams, Calvin Ellis, F. K. Paddock.
G. S. Stebbins, E. Wigglesworth, Jr.

On Ethics and Discipline.

C. E. Buckingham, D. W. Cheever, R. L. Hodgdon,
G. J. Townsend, G. E. Francis.

Presidents of District Societies—Vice-Presidents (Ex-Officiis).

[Arranged according to Seniority.]

HENRY L. SABIN,
G. W. DOANE,
GEORGE JEWETT,
H. N. JONES,
JOHN P. MAYNARD,
HENRY W. WILLIAMS,
C. D. STICKNEY,
R. L. HODGDON,
F. A. HOWE,
EDWARD NEWHALL,
HENRY CLARKE,
W. W. GODDING,
W. S. BROWN,
LORENZO S. FOX,
O. F. BIGELOW,
DAVID CLARK,
ROLLIN C. WARD.

Councillors.

BARNSTABLE.—Drs. S. H. Gould, Brewster; Chauncey M. Hulbert, South Dennis; J. Leonard, Sandwich; W. J. Nickerson, South Yarmouth; Peter Pineo, Hyannis.

BERKSHIRE.—Drs. N. S. Babbitt, O. J. Brown, North Adams; Clarkson T. Collins, Great Barrington; F. F. D'Avignon, North Adams; F. K. Paddock, Pittsfield; E. Wright, Lee.

BRISTOL NORTH.—Drs. John R. Bronson, Attleboro'; Chas. Howe, Joseph Murphy, Silas D. Presbrey, Taunton.

BRISTOL SOUTH.—Drs. George Atwood, Fairhaven; W. W. Comstock, Middleboro'; R. T. Davis, J. Dwelly, Fall River; F. H. Hooper, J. H. Mackie, New Bedford.

ESSEX NORTH.—Drs. William Cogswell, Bradford, *President;* J. Crowell, Haverhill; H. J. Cushing, West Amesbury; David Dana, G. W. Garland, Lawrence; James C. How, Haverhill; C. P. Morrill, North Andover; R. B. Root, Georgetown.

ESSEX SOUTH.—Drs. D. F. Drew, Lynn; W. W. Eaton, Danvers; J. S. Emerson, Lynn; Joseph Garland, Gloucester; Arthur Kemble, William Mack, Salem; George S. Osborne, Peabody; Daniel Perley, Lynn.

FRANKLIN.—Drs. E. Barton, South Orange; A. C. Deane, Greenfield; E. A. Deane, Montague; J. R. Fairbanks, Ashfield; J. W. D. Osgood, Greenfield, *Vice-President.*

Hampden.—Drs. Cyrus Bell, Agawam; Thomas L. Chapman, Longmeadow; V. L. Owen, Springfield; W. J. Sawin, Chicopee Falls; P. LeB. Stickney, Springfield.

Hampshire.—Drs. James Dunlap, Pliny Earle, S. A. Fisk, Northampton; John Yale, Ware.

Middlesex East.—Drs. John O. Dow, Wakefield; John M. Harlow, Woburn; Frederic Winsor, Winchester.

Middlesex North.—Drs. C. Dutton, Tyngsborough; C. M. Fisk, Lowell; Levi Howard, Chelmsford; Gilman Kimball, W. H. Leighton, G. E. Pinkham, Charles A. Savory, Joel Spalding, Lowell.

Middlesex South.—Drs. B. F. D. Adams, Waltham; H. Chapin, Somerville; E. R. Cutler, Waltham; S. W. Driver, Cambridge; E. J. Forster, Charlestown; J. C. Harris, R. L. Hodgdon, Arlington; Howland Holmes, Lexington; Otis E. Hunt, Newton; J. T. G. Nichols, Cambridge; L. R. Stone, Newton; G. J. Townsend, South Natick; C. E. Vaughan, H. P. Walcott, Cambridge; W. W. Wellington, Cambridgeport; J. W. Willis, Waltham; Morrill Wyman, Cambridge.

Norfolk.—Drs. George J. Arnold, Roxbury; Henry Blanchard, Neponset; B. E. Cotting, R. T. Edes, Roxbury; D. S. Fogg, Norwood; F. F. Forsaith, Weymouth; C. C. Hayes, Hyde Park; C. C. Holmes, Milton; George King, Franklin; James Morison, Quincy; Joel Seaverns, Roxbury; J. Stedman, Jamaica Plain; C. C. Tower, South Weymouth.

Plymouth.—Drs. J. B. Brewster, Plymouth; J. C. Gleason, East Abington; Benjamin Hubbard, Plymouth; Asa Millet, Bridgewater; W. Richards, Brockton.

Suffolk.—Drs. S. L. Abbot, J. Ayer, H. H. A. Beach, H. J. Bigelow, J. N. Borland, H. I. Bowditch, B. Brown, C. E. Buckingham, S. Cabot, D. W. Cheever, P. M. Crane, Hall Curtis, H. Derby, F. W. Draper, *Treasurer*, C. Ellis, G. H. Gay, S. A. Green, F. B. Greenough, A. B. Hall, G. Hay, D.

H. Hayden, *Librarian*, R. M. Hodges, C. D. Homans, J. Homans, W. Ingalls, J. B. S. Jackson, J. F. Jarvis, B. J. Jeffries, G. H. Lyman, F. Minot, W. W. Morland, H. K. Oliver, J. P. Reynolds, W. L. Richardson, G. C. Shattuck, A. D. Sinclair, D. H. Storer, C. W. Swan, *Corresponding Secretary*, J. B. Treadwell, J. E. Tyler, O. F. Wadsworth, C. E. Ware, J. C. White, H. W. Williams, of Boston.

Worcester.—Drs. G. W. Burdett, Clinton; H. Clarke, Worcester; D. S. Fiske, Brookfield; Thomas H. Gage, Oramel Martin, Worcester; J. H. Robinson, Harvard; J. Sargent, E. Warner, Worcester; J. T. O. West, Princeton; C. A. Wilcox, Uxbridge.

Worcester North.—Drs. C. C. Field, Leominster; Benjamin H. Hartwell, Ayer; George Jewett, Fitchburg; Ira Russell, Winchendon.

Censors.

Barnstable.—Drs. M. F. Delano, Sandwich; Benjamin D. Gifford, South Chatham; A. H. Newton, Chatham; J. M. Smith, Barnstable; T. N. Stone, Provincetown.

Berkshire.—Drs. C. T. Collins, Great Barrington; F. F. D'Avignon, North Adams; F. K. Paddock, Pittsfield; Andrew M. Smith, Williamstown; D. M. Wilcox, Lee.

Bristol North.—Drs. W. G. Allen, Mansfield; E. J. Bassett, Taunton; H. C. Bullard, N. Attleboro'; George L. Ellis, S. D. Presbrey, Taunton.

Bristol South.—Drs. B. J. Handy, Fall River; Henry Johnson, C. D. Prescott, New Bedford; Isaac Smith, Jr., J. B. Whitaker, Fall River.

Essex North.—Drs. C. G. Carleton, Lawrence; E. P. Hurd, Newburyport; O. H. Johnson, S. K. Towle, Haverhill; Orin Warren, West Newbury.

Essex South.—Drs. C. A. Carlton, Salem; C. A. Lovejoy,

Lynn; C. C. Pike, Peabody; O. B. Shreve, Salem; S. W. Torrey, Beverly.

Franklin.—Drs. Charles Bowker, Bernardstown; E. C. Coy, Montague City; C. M. Duncan, Shelburne; C. L. Fisk, Jr., Greenfield; C. M. Wilson, Shelburne Falls.

Hampden.—Drs. H. C. Belden, West Springfield; L. S. Brooks, Charles P. Kemp, G. C. McClean, E. M. Pease, Springfield.

Hampshire.—Drs. D. B. N. Fish, Amherst; E. A. Kemp, Enfield; C. Seymour, H. B. Stoddard, Northampton; S. E. Thayer, Southampton.

Middlesex East.—Drs. F. F. Brown, Reading; A. H. Cowdrey, Stoneham; J. O. Dow, Reading; D. W. Wight, Frederic Winsor, Winchester.

Middlesex North.—Drs. E. B. Aldrich, A. W. Buttrick, J. H. Gilman, F. Nickerson, Hermon J. Smith, Lowell.

Middlesex South.—Drs. E. R. Cogswell, Cambridge; W. P. Giddings, Allston; J. L. Hildreth, Cambridge; H. E. Marion, Brighton; E. H. Stevens, North Cambridge.

Norfolk.—Drs. J. W. Chase, Dedham; George Faulkner, Jamaica Plain; F. W. Goss, *Recording Secretary*, Roxbury; O. F. Rogers, Dorchester; W. B. Trull, Brookline.

Plymouth.—Drs. E. A. Chase, Brockton; H. W. Dudley, Abington; J. C. Gleason, East Abington; W. R. Howes, Hanover; William Richards, Brockton.

Suffolk.—Drs. Allen M. Sumner, George G. Tarbell, J. Collins Warren, Thomas Waterman, Edward N. Whittier, Boston.

Worcester.—Drs. G. J. Bull, George E. Francis, Worcester; E. B. Harvey, Westboro'; J. W. Hastings, Warren; Emerson Warner, Worcester.

Worcester North.—Drs. Josiah M. Blood, Ashby; Caleb C. Field, Leominster; J. P. Lynde, Athol; Alfred Miller, Fitchburg; Edward J. Sawyer, Gardner.

Commissioners of Trials.

Barnstable . . .	George N. Munsell	Harwich.
Berkshire . . .	Abner M. Smith .	Pittsfield.
Bristol North . .	John R. Bronson .	Attleboro'.
Bristol South . .	F. H. Hooper . .	New Bedford.
Essex North . .	Walter H. Kimball	Andover.
Essex South . . .	William Mack . .	Salem.
Franklin	A. C. Walker . .	Greenfield.
Hampden	W. J. Sawin . .	Chicopee Falls.
Hampshire . . .	G. F. Thompson .	Belchertown.
Middlesex East . .	J. M. Harlow . .	Woburn.
Middlesex North .	John O. Green . .	Lowell.
Middlesex South .	Alfred Hosmer . .	Watertown.
Norfolk	T. H. Dearing . .	Braintree.
Plymouth	J. S. Hammond .	Plympton.
Suffolk	Charles W. Swan .	Boston.
Worcester . . .	L. F. Billings . .	Barre.
Worcester North .	C. C. Field . . .	Leominster.

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Barnstable.—Dr. George W. Doane, Hyannis, *President;* Dr. S. H. Gould, Brewster, *Vice-President;* Dr. Benjamin D. Gifford, South Chatham, *Secretary;* Dr. Chauncey M. Hulbert, South Dennis, *Treasurer;* Dr. J. M. Smith, Barnstable, *Librarian.*

Berkshire.—Dr. Henry L. Sabin, Williamstown, *President;* Dr. C. D. Mills, Pittsfield, *Vice-President;* Dr. J. F. A. Adams, Pittsfield, *Secretary;* Dr. W. M. Mercer, Pittsfield, *Treasurer;* Dr. O. S. Roberts, Pittsfield, *Librarian.*

Bristol North.—Dr. W. W. Godding, Taunton, *President;* Dr. Nomus Paige, Taunton, *Vice-President;* Dr. A. S. Deane, Taunton, *Secretary, Treasurer and Librarian.*

Bristol South.—Dr. C. D. Stickney, New Bedford, *President;* Dr. J. Dwelly, Fall River, *Vice-President;* Dr. Charles D. Prescott, New Bedford, *Secretary, Treasurer and Librarian.*

Essex North.—Dr. Francis A. Howe, Newburyport, *President;* Dr. W. H. Kimball, Andover, *Vice-President;* Dr. George W. Snow, Newburyport, *Secretary and Treasurer;* Dr. Samuel K. Towle, Haverhill, *Librarian.*

Essex South.—Dr. Edward Newhall, Lynn, *President;* Dr. Amos H. Johnson, Salem, *Vice-President;* Dr. David Coggin, Salem, *Secretary;* Dr. William Mack, Salem, *Treasurer;* Dr. Joseph P. Fessenden, Salem, *Librarian.*

Franklin.—Dr. Rollin C. Ward, Northfield, *President;* Dr. Francis J. Canedy, Shelburne Falls, *Vice-President;* Dr. Daniel M. Elliot, South Deerfield, *Secretary and Treasurer.*

Hampden.—Dr. David Clark, Springfield, *President;* Dr. George S. Stebbins, Springfield, *Vice-President;* Dr. Frederic W. Chapin, Springfield, *Secretary, Treasurer and Librarian.*

Hampshire.—Dr. O. F. Bigelow, Amherst, *President;* Dr. C. B. Smith, Granby, *Vice-President;* Dr. J. B. Learned, Northampton, *Secretary;* Dr. James Dunlap, Northampton, *Treasurer.*

Middlesex East.—Dr. W. S. Brown, Stoneham, *President;* Dr. F. F. Brown, Reading, *Vice-President;* Dr. E. M. Harding, Woburn, *Secretary;* Dr. Alonzo Chapin, Winchester, *Treasurer and Librarian.*

Middlesex North.—Dr. Lorenzo S. Fox, Lowell, *President;* Dr. George H. Pillsbury, Lowell, *Vice-President;* Dr. George C. Osgood, Lowell, *Secretary;* Dr. Nathan B. Edwards, North Chelmsford, *Treasurer;* Dr. M. G. Parker, Lowell, *Librarian.*

Middlesex South.—Dr. R. L. Hodgdon, Arlington, *President;* Dr. A. C. Webber, Cambridgeport, *Vice-President;*

Dr. Charles E. Vaughan, Cambridge, *Secretary;* Dr. John Warren Willis, Waltham, *Treasurer;* Dr. E. R. Cutler, Waltham, *Librarian.*

Norfolk.—Dr. J. P. Maynard, Dedham, *President;* Dr Robert Amory, Brookline, *Vice-President;* Dr. A. H. Nichols, Roxbury, *Secretary and Librarian;* Dr. George J. Arnold, Roxbury, *Treasurer.*

Plymouth.—Dr. Henry N. Jones, Kingston, *President;* Dr. H. W. Dudley, Abington, *Vice-President;* Dr. Benjamin F. Hastings, S. Abington, *Secretary and Treasurer;* Dr. F. S. Thomas, Hanson, *Librarian.*

Suffolk.—Dr H. W. Williams, Boston, *President;* Dr. Charles D. Homans, Boston, *Vice-President;* Dr. A. L. Mason, Boston, *Secretary;* Dr. Adino B. Hall, Boston, *Treasurer;* Dr. B. Joy Jeffries, Boston, *Librarian.*

Worcester.—Dr. Henry Clarke, Worcester, *President;* Dr. F. D. Brown, Webster, *Vice-President;* Dr. W. H. Workman, Worcester, *Secretary;* Dr. John G. Park, Worcester, *Treasurer;* Dr. Lewis S. Dixon, Worcester, *Librarian.*

Worcester North.—Dr. George Jewett, Fitchburg, *President;* Dr. George D. Colony, Fitchburg, *Vice-President;* Dr. F. W. Russell, Winchendon, *Secretary;* Dr. Alfred Miller, Fitchburg, *Treasurer;* Dr. Alfred O. Hitchcock, Fitchburg, *Librarian.*

Massachusetts Medical Society.

PROCEEDINGS OF THE COUNCILLORS.

October 4, 1876.

A Stated Meeting of the Councillors was held in the Rooms of the Society, No. 36 Temple Place, Boston, on Wednesday, October 4, 1876, at 11 o'clock, A.M.

The President, Dr. William Cogswell, in the Chair.

The following Councillors were present:

Bristol North.
John R. Bronson,
Charles Howe.

Bristol South.
W. W. Comstock,
F. H. Hooper,
John H. Mackie.

Essex North.
William Cogswell,
John Crowell,
George W. Garland,
James C. How,
Charles P. Morrill.

Essex South.
William W. Eaton,
J. S. Emerson,
Daniel Perley.

Franklin.
J. W. D. Osgood.

Middlesex East.
John M. Harlow.

Middlesex North.
Charles Dutton,
Cyrus M. Fisk,
Levi Howard,
Gilman Kimball,
Charles A. Savory,
Joel Spaulding.

Middlesex South.
B. F. D. Adams,
Horace Chapin,
Edward R. Cutler,
Stephen W. Driver,
R. L. Hodgdon,
Howland Holmes,
Otis E. Hunt,
J. T. G. Nichols,
Lincoln R. Stone,
G. J. Townsend,
C. E. Vaughan,
Henry P. Walcott,
John W. Willis.

Norfolk.
George J. Arnold,
Henry Blanchard,
Benj. E. Cotting,
David S. Fogg,
Charles C. Hayes,
James Morison,
Joel Seaverns,
Joseph Stedman,
Charles C. Tower.

Plymouth.
J. C. Gleason,
Asa Millet,
William Richards.

Suffolk.
S. L. Abbot,
James Ayer,
H. J. Bigelow,

P. M. Crane,
D. W. Cheever,
F. W. Draper,
Calvin Ellis,
A. B. Hall,
C. D. Homans,
J. B. S. Jackson,
J. F. Jarvis,
G. H. Lyman,
Francis Minot,
W. W. Morland,
J. P. Reynolds,
W. L. Richardson,
G. C. Shattuck,
A. D. Sinclair,
D. H. Storer,
C. W. Swan,
J. B. Treadwell,
O. F. Wadsworth,
H. W. Williams.

Worcester.
G. W. Burdett,
Emerson Warner,
J. T. O. West.

Worcester North.
Caleb C. Field,
George Jewett,
Ira Russell.

Total, 75.

On motion, the reading of the record of the previous meeting was dispensed with, it having been printed.

The President nominated the following delegates to the Vermont Medical Society, and the nominations were confirmed :—

Drs. A. C. Walker of Greenfield, A. M. Smith of Pittsfield, and H. G. Leslie of Amesbury.

The Committee on Finance recommended the passage of the following :—

Ordered,—That at the end of the present financial year and thenceforward, annually, there shall be set aside, as a dividend, such portion of the balance remaining in the Treasury as the Committee on Finances in consultation with the Treasurer shall determine, subject to the approval of the Councillors at their Annual Meeting,—to be distributed to the several District Societies in proportion to the number of the annual assessments which shall have been paid *in advance* by the said Societies respectively.

After a discussion in which Drs. Bronson, Willis, Arnold, Cotting and Draper took part, the above order was adopted.

The Committee on Membership and Resignations reported through Dr. Ayer, and in accordance with its recommendation the following Fellows were allowed to resign :

Drs. Charles Edward Hosmer, of Billerica.
Edward Hitchcock, of Amherst.
Christopher Minot Weld, of Jamaica Plain.

On recommendation of the same Committee the following was allowed to retire :

Dr. Warren Jacob Whitney, of Boston.

On recommendation of the same Committee the following were dropped under By-Law VII. for non-payment of dues :

Drs. James Daley, of Lowell.
Daniel Chaplin, of North Bridgewater.
Horace Dwight Train, of Sheffield.
Joseph Underwood, of Quincy.
Alfred G. Williams, of North Adams.
Timothy Wilson, of Orleans.
Samuel C. Hartwell, of Southbridge.
Asahel Huntington Wildes, of Ipswich.
Robert E. Jameson, of Jamaica Plain.

The Committee on Resignations further recommended, and the Councillors voted, that the following names of Fellows who have surrendered their Fellowship under the action of By-Law VI., by removal from the State, be dropped from the roll.

Alba, Edwin Mason
Adams, Willard
Allen, Louis
Archibald, Wm. Abr. Newcomb
Arnott, Peter S.
Abbott, Joseph S.
Avery, Samuel F.
Ayer, Washington
Bacon, Alvan
Baillargeon, Peter
Baker, Moses
Barnard, Charles Francis
Ballard, Albert Manley
Ball, Josiah
Barrett, Solomon
Barker, John Leland
Barstow, William
Bates, William R.
Bemis, Nathaniel O.
Bennett, Asahel
Biundi, Enrigo
Blanchard, Andrew Delaval
Bonney, William P.
Bourn, Silas S.
Brewster, Josiah W.
Brown, Joel
Brown, Sylvanus
Browne, John Mills
Bryant, Ira
Bugard, Bertrand Francis
Bumstead, Freeman Josiah
Burnett, Elisha Griffin
Butler, Alexander S.
Butler, John Simpkins
Callaghan, Matthew Joseph
Chaffee, Calvin Clifford
Champlin, Stephen
Chandler, Benjamin
Chandler, Herman
Chandler, Seth
Chapin, Caleb
Chase, Francis H.
Clark, Daniel
Clapp, Sylvanus
Clark, Job
Clarke, Albert W.
Clarke, Daniel
Cobb, Elijah
Coale, Isaac S.
Cochrane, James Briann
Coffin, William Spooner
Coggeshall, John H.

Colby, John L.
Collie, James Ross
Collins, William Droien
Collyer, Robert H.
Cooley, Dennis
Craig, A. G.
Creaghe, John O'Dwyer
Crozier, Arthur T.
Culver, Charles
Cummings, James M.
Cunningham, Hugh
Curtis, Jonathan Strong
Damon, Orison Benjamin
Davis, Henry Gassett
Davis, William Augustus
Dean, James Brinson
Dean, John
DeChêne, T. G. F. Miville
Delano, Barna Ladd
Desauliniers, Louis Leon Lesieur
Dewar, Henry A.
Dexter, William Prescott
Dixon, Robert
Dodge, William Lovell
Dow, Darius Ayer
Downes, Nathaniel
Drummond, Thomas Menzies
Eaton, Albert C.
Eddy, William
Emerson, Justin Edwards
English, Richard George W.
Erving, J. F.
Fish, Samuel
Fisher, Francis W.
Flagg, Samuel B.
Fletcher, Edwin
Fletcher, Madison
Fletcher, Moore R.
Fletcher, William Kelly
Follet, S. F.
Folsom, Levi
Foot, Nathaniel
Foss, Stephen
French, Charles P.
Gale, George Frederick
Gallup, John S.
Gallup, William
Gamwell, J. W.
Gates, Samuel
Gibbs, Charles
Gilman, Benjamin Franklin
Gilman, Noah
Gleason, Charles W.
Goodridge, Horace
Goodman, George S.
Gorham, William Henry
Goulet, Ambrose
Gray, Adoniram Judson
Gray, William
Greely, George Preston
Greely, Moses Reuben
Greene, Samuel F.
Griffin, William A.
Griggs, Samuel
Guay, Benoni
Hammatt, George A.
Hardy, Benjamin F.
Harpur, John
Harrington, Samuel C.
Harris, Jerome
Hart, Samuel
Hartshorn, Dana Warren
Hartwell, John
Haskell, J. Sumner
Hazard, Albert Arnold
Hatch, Horace
Hayes, Charles
Head, George Edward
Head, John Frazier
Heard, John
Hill, Edward L.
Hill, George
Hill, Kimball
Hill, Reuben W.
Hitchcock, Gad.
Hope, George Henry
Hoskins, Thomas Henry
Howard, George C.
Howe, Joseph
Howes, William
Hubbard, Levi
Hubon, Peter Emmett
Humphrey, Daniel
Hunt, James L.

Hunt, Joseph H.
Irwin, Richard
Jacobs, D. D.
Jaynes, Henry
Jenkins, Freeman Hopkins
Johnson, George Whitefield
Jones, Alanson Sylvester
Jones, Bela B.
Jones, David
Kendall, Thomas Joseph Wm.
Kidder, C. W. B.
Kidder, Charles
Kimball, William Mann
King, Absalom P.
Knight, Elam C.
Knight, Granville
Kob, Charles F.
Lacerte, Elie
Ladd, Azell P.
Lambert, Alfred
Larkin, Lyman B.
Lawton, T. C.
Leach, John T. Gilman
Lee, John Stevens
Leigh, Edwin
Leonard, John M.
LeProhon, Edward Philip
Lewis, Edwin Rufus
Lewis, Frederick Benj. Adams
Lincoln, Isaac
Lincoln, William Leavitt
Little, John
Lockerby, Charles A.
Lombard, Josiah Stickney
Loring, Edward G.
Loud, Watson
Lovejoy, Wallace Williams
Lyman, George L.
Lyman, Jonathan Huntington
Lyons, Charles T.
Malcolm, Alexander B.
Mallalieu, Albert Warren
Mallory, Zalman
Manley, Edwin
Mann, Ariel
Mann, Cyrus Sweetser
Mansfield, George
Mansur, Moody
Marsh, Lebbeus Eaton
Martin, Joseph Lloyd
McAllister, Charles
McAllister, George
McCluer, Benjamin
McCrillis, John
McGregor, John Howard
McGregor, Murdock
McKinnon, John Cameron
McLaughlin, D. L.
McMahon, John Joseph
McSwain, Angus
Meacham, Franklin
Mead, Allen P.
Mead, Martin Luther
Melcher, Samuel H.
Merriam, Joseph Waite
Merrill, Sidney S.
Merritt, Samuel
Minassian, Simon Graves
Miller, Jedidiah
Mitchell, Henry Hedge
Mitchell, Joseph Davis
Molloy, Patrick E.
Moore, Charles W.
Morgan, James Raymond
Morgan, Leonard
Munn, Curtis Emerson
Nelson, Abiel W.
Nelson, Daniel Thurber
Newman, Albert
Nichols, Adam
Nichols, Algernon Sidney
Nichols, Charles Henry
Nichols, Jonathan
Niles, John N.
Niles, Nathaniel
Nims, Reuben
Norton, H. J.
Noyes, Francis Vergnies
Noyes, George H.
Nute, Timothy Ricker
Oakes, Thomas Fletcher
O'Reardon, Daniel O'Connell
Packard, Charles Appleton
Page, Jonathan

Palmer, Isaac
Park, A. O.
Parker, Charles E.
Parker, James
Parkhurst, Gurdon R.
Parkhurst, Chester
Parks, George Bradish
Peck, Gardner M.
Peck, William L.
Peirce, Arthur G.
Perry, D. A.
Perry, Freeman
Phelps, Charles Abner
Phelps, Elisha
Pike, Horace G.
Pillsbury, John M.
Pinkerton, Thomas Hamel
Piper, Richard Upton
Plimpton, Daniel B.
Porter, Frank Edward
Potter, Albert
Potter, Merritt Franklin
Pouliot, Francis E. W.
Powers, George Herman
Pratt, Charles B.
Prentiss, Henry Conant
Prescott, Jonathan C.
Prescott, Joseph
Prius, Peter
Proctor, Charles Alfred
Proctor, William Brown
Provencher, Raphael
Putnam, Charles I.
Randall, Daniel Fordyce
Randall, Wm. Allen Chipman
Reedy, Maurice O. K.
Rice, Frank Horton
Rice, Jesse
Rice, Nathan Payson
Richards, Jacob
Roberts, S. O.
Robertson, Charles A.
Robertson, Henry W.
Rockwood, Henry
Ruggles, Charles A.
Rogers, Samuel Josiah Smith
Rogers, Seth
Root, E. B.
Rose, Truman H.
Rosenstein, John G.
Rousseau, Zolique
Roy, Joseph
Ryan, H.
Salamons, Abraham
Sanborn, Charles Edward
Sanborn, George W.
Sawyer, Edward Warren
Sawyer, John Woodbury
Schuster, Bertram C.
Scott, Sir Walter
Sears, Thomas
Seymour, George
Shackford, Rufus
Shapleigh, Elisha Bacon
Sharkey, James Michael
Shaw, Samuel
Sheldon, Benjamin
Sherburne, Andrew Badger
Shipley, George Thompson
Simpson, Henry Young
Small, Jonathan
Smilie, Romeo Elton
Smith, Albert Thorndike
Smith, D. D.
Smith, George C.
Smith, Israel N.
Smith, Jerome C.
Smith, Jonas M.
Smith, Justin
Smith, Nathaniel
Smith, Thomas Delap
Spalding, Reuben
Spaulding, Reuben G.
Spear, Henry F.
Sprague, Seth Loring
Spring, John
Stearns, Henry Putnam
Stevens, Joseph Lowe
Stewart, Thomas H.
Stilwell, Cleveland Shaler
Stimson, Edward
Stone, Alexander Johnston
Stone, James
Stone, Jonathan

Strickland, Rial
Strong, Maltby
Strong, Simeon E.
Stuart, Absalom B.
Stuart, George Albert
Tabor, Stephen James Wilson
Taft, Caleb S.
Tappan, Mortimer B.
Taylor, Gustavus
Taylor, John Davidson
Temple, Cyrus
Tebbets, Hiram Bradbury
Tenney, James Augustus
Terry, William
Thayer, William Henry
Thomas, Stephen
Thomas, Philander H.
Thompson, Charles Kimball
Thorndike, William
Thurston, Horace
Tinker, Martin Amos
Tjader, Antoine W.
Tucker, Nathaniel Saville
Topliff, Charles Clinton
Towle, Nathan C.
Tucker, Dexter Mills
Tucker, James Joannas
Tuckerman, John Francis
Turner, Alvan H.
Tuttle, Charles Martin
Tyler, John Bennett
Wakefield, Adoniram J.
Walsh, John Darwin
Walsh, Peter Mandeville
Ward, Edwin Fletcher
Ward, George A.
Ward, Malthus A.
Ware, William Henry
Warner, Homer Howard
Warren, William Harrington
Waterman, James Henry
Weeks, Charles M.
Weld, Francis Minot
Wells, Phineas P.
Wells, Noah
West, Samuel
Wells, William Randall
Worcester, Edward
Worcester, Isaac R.
Weston, Hervey Eliphaz
Whitcomb, Charles Wadsworth
White, Albert
White, Charles Henry
White, Henry Orne
White, John
White, Jonathan Ames
White, Whitman Vassal
Whiting, Joseph Bellamy
Whitmore, Joseph
Whitwell, William Scollay
Wigard, Henry
Wilbur, Harvey B.
Wilbur, Joshua Green
Wilbur, Leonidas Franklin
Wild, Edward Augustus
Wilder, Burt Green
Williams, Avery
Wilson, Benjamin F.
Wilson, Charles Alonzo
Wilter, John
Winslow, Charles Frederic
Womersley, Henry
Wood, James A.
Wright, Thomas S.

The Committee on Membership and Resignations reported in favor of the following who were nominated at the last meeting for Honorary Membership, and the same were elected Honorary Members:

Dom. Pedro II., Emperor of Brazil.
Dr. Austin Flint, of New York City.

The Committee appointed at the last meeting to designate a boundary line between Suffolk and Norfolk Districts, reported through Dr. Hodgdon and recommended the following:

Beginning at the crossing of the Old Colony R. R. and Dorchester town-line, near Locust St., and running on said town-line westerly to the N. Y. & N. E. R. R., then northerly and a little easterly along said R. R. to (new) Swett St., thence along the middle of Swett St. and Northampton St. to the Boston & Providence R. R., thence northeasterly along the Providence R. R. to the middle of (new) West Chester St. (or Park), then along the middle of West Chester St. to the Boston & Albany R. R., and thence along the B. & A. R. R. westerly to the boundary line of the town of Brookline; thence by town-line which divides Brookline from Boston and Brighton as now bounded (i. e., northward along St. Mary's St. and westward along Brighton Avenue to old line).

The recommendation of the Committee was adopted, and the line so established.

On motion of Dr. Cotting, it was

Voted, That at the Anniversary Meeting in 1881, the Centennial of this Society, in addition to the usual Annual Discourse there shall be read an *Historical Essay* by one of the Fellows, embracing the History and Progress of the Massachusetts Medical Society, and such review of the profession in Massachusetts from the settlement of the State, as may be fitting and appropriate.

It was further

Voted, That Dr. Samuel A. Green, of Boston, be invited to prepare such an essay, and also

That the President of the Society, after consultation with Dr. Green, nominate at the next meeting of the Councillors a Fellow who shall render such assistance to Dr. Green as the latter may desire, and act as alternate should occasion arise.

Dr. Cotting stated that he had been requested to call attention to the harm which the community and the profession had suffered, notably of late, from improper persons performing the functions of Coroner. He therefore moved, and the Councillors

Voted, That a Committee of five be appointed by the Councillors to take into consideration the defects of the present laws relative to the appointment and practices of Coroners, so far as these defects involve the Medical Profession, and to report at the next meeting what action, if any, is advisable.

The President appointed Drs. Cotting, J. C. How, Wellington, W. L. Richardson and J. Collins Warren, to constitute this Committee.

In accordance with the vote at the last meeting, reports were called for from Delegates to other State Medical Societies. Drs. F. H. Brown and Bundy presented a report, in writing, of their visit to the Maine Medical Society, and Dr. Perley reported for New Hampshire. There not being time to hear from other delegates, at 1.30 P.M. the Councillors

Adjourned.

FRANCIS W. GOSS,
Recording Secretary.

February 7, 1877.

A Stated Meeting of the Councillors was held in the Rooms of the Society, No. 36 Temple Place, Boston, on Wednesday, February 7, 1877, at 11 o'clock, A.M.

The President, Dr. William Cogswell, in the Chair.

The following Councillors were present:—

Barnstable.
Peter Pineo.

Berkshire.
Clarkson T. Collins.

Bristol North.
John R. Bronson,
Charles Howe.

Bristol South.
W. W. Comstock,
John H. Mackie.

Essex North.
William Cogswell,
John Crowell,
David Dana,
James C. How,
Charles P. Morrill.

Essex South.
David F. Drew,
William W. Eaton,
J. S. Emerson,
Daniel Perley.

Middlesex East.
John O. Dow,
John M. Harlow,
Frederic Winsor.

Middlesex North.
Charles Dutton,
Cyrus M. Fisk,
George E. Pinkham,
Charles A. Savory,
Joel Spaulding.

Middlesex South.
B. F. D. Adams,
Horace Chapin,
Edward R. Cutler,
Jonas C. Harris,
R. L. Hodgdon,
Howland Holmes,
Otis E. Hunt,
Lincoln R. Stone,
G. J. Townsend,
Charles E. Vaughan,
Henry P. Walcott,
W. W. Wellington,
John W. Willis.

Norfolk.
George J. Arnold,
Benj. E. Cotting,
David S. Fogg,
F. F. Forsaith,
Charles C. Hayes,
C. C. Holmes,
George King,
James Morison,
Joel Seaverns,
Joseph Stedman.

Plymouth.
J. B. Brewster,
J. C. Gleason,
Asa Millet.

Suffolk.
S. L. Abbot,
James Ayer,
H. H. A. Beach,
H. J. Bigelow,
H. I. Bowditch,
B. Brown,
Samuel Cabot,
P. M. Crane,
D. W. Cheever,
Hall Curtis,
F. W. Draper,
Calvin Ellis,
S. A. Green,
F. B. Greenough,
A. B. Hall,
D. H. Hayden,
R. M. Hodges,
C. D. Homans,
John Homans,
J. B. S. Jackson,
B. J. Jeffries,
G. H. Lyman,
Francis Minot,
W. L. Richardson,
G. C. Shattuck,
A. D. Sinclair,
D. H. Storer,
C. W. Swan,
C. E. Ware,
H. W. Williams.

Worcester North.
Caleb C. Field,
Benj. H. Hartwell,
George Jewett,
Ira Russell.

Total, 83.

Delegates were appointed to attend the Annual Meetings of other State Medical Societies, as follows :—

Maine.—Drs. H. W. Williams of Boston, H. Holmes of Lexington, R. L. Hodgdon of Arlington.

New Hampshire.—Drs. J. Morison of Quincy, G. E. Francis of Worcester, F. H. Brown of Boston.

Rhode Island.—Drs. J. Murphy of Taunton, O. S. Lovejoy of Haverhill, G. S. Osborne of Peabody.

Connecticut.—Drs. J. H. Mackie of New Bedford, G. Jewett of Fitchburg, G. S. Stebbins of Springfield.

New York.—Drs. Ira Russell of Winchendon, J. C. How of Haverhill, C. T. Collins of Great Barrington.

New Jersey.—Drs. A. Le B. Monroe of Medway, G. G. Tarbell of Boston, O. H. Johnson of Haverhill.

The following Standing Committees were appointed :—

To audit the Treasurer's Accounts:—Drs. G. J. Arnold, O. F. Wadsworth.

To examine the By-Laws of District Societies:—Drs. A. Hosmer, A. Millet, J. Homans.

To examine the Library and Cabinet:—Drs. J. Seaverns, F. Winsor.

To fill the vacancy in the Committee on Publications caused by the death of Dr. Morland:—Dr. B. E. Cotting.

The Committee on Membership and Resignations reported through Dr. Ayer, and recommended that the following be allowed to resign :—

Drs. J. H. Gushee, of Raynham.
John Clough, of Woburn.

Also, that the following be allowed to retire :—

Drs. H. L. Sabin, of Williamstown.
C. M. Duncan, of Shelburne.

Also, that the following be dropped for five years' delinquency in assessments :—

Drs. H. S. Lucas, of Chester.
O. M. Drury, of Orange.
R. B. Boynton, of Townsend.
G. T. Ballard, of S. Wilbraham.
J. R. Fairbanks, of Ashfield.
H. T. Phillips, of Cheshire.

The Committee on Membership also reported favorably on the names of Drs. Willard Parker of New York, and George A. Otis, U.S.A., who were nominated at the last meeting for Honorary Members, and the same were thereupon elected.

Dr. Hosmer, for the Committee on the By-Laws of District Societies, presented its report. The report thus received is on file.

The President stated that Dr. S. A. Green had accepted the appointment to prepare the Historical Essay at the Centennial Anniversary of the Society in 1881.

Voted, That Dr. H. Tuck of Boston be Dr. Green's assistant and alternate in the preparation of his Historical Essay.

The Committee appointed at the last meeting to consider the defects of the present laws relative to the appointment and practices of Coroners, so far as these defects involve the Medical Profession, reported through its Chairman, Dr. Cotting, and recommended the passage of the following :—

Resolved, That a Committee of five be appointed by the Councillors of the Massachusetts Medical Society to co-operate with committees of other Societies or Associations and persons engaged in obtaining a reform in the laws pertaining to Coroners,—to go before the Legislature, or other officials, if deemed by them necessary or advisable,—to have a general charge of the matter in behalf of the Massachusetts Medical Society and the Regular Profession of Medicine,—and to report progress from time to time to the Councillors.

The above resolve, the number of the committee having been subsequently changed to six, was adopted.

The Councillors appointed as the Committee to carry out the purposes of the resolve,—the President, Dr. William Cogswell, and the Committee from which the resolution emanated, viz. : Drs. Cotting, J. C. How, Wellington, W. L. Richardson and J. Collins Warren.

Voted, That the report of the Committee serve as a basis on which the Committee shall act in going before the Legislature.

A communication from Dr. J. B. Treadwell, of Boston, was read, tendering his resignation as a Councillor. Accepted.

Dr. Lyman, as Chairman of the Committee on Nominations for the Suffolk District, presented the names of Drs. R. H. Fitz and J. Collins Warren to fill the vacancies in the Councillors from the Suffolk District occasioned by the death of Dr. Morland and the resignation of Dr. Treadwell.

Drs. Fitz and Warren were thereupon elected Councillors by ballot.

At 12.45 o'clock, P.M., the Councillors adjourned.

FRANCIS W. GOSS,
Recording Secretary.

Annual Meeting.

The Annual Meeting of the Councillors was held at the Rooms of the Society, No. 36 Temple Place, Boston, on Tuesday, June 12, 1877, at 7 o'clock, P.M.

The President, Dr. William Cogswell, in the Chair.

The following Councillors were present:—

Barnstable.
T. R. Clement,
Peter Pineo.

Berkshire.
Clarkson T. Collins,
W. W. Leavitt,
Eliphalet Wright.

Bristol North.
John R. Bronson,
Charles Howe,
Joseph Murphy,
Silas D. Presbrey.

Bristol South.
George Atwood,
W. W. Comstock,
Jerome Dwelly,
F. H. Hooper.

Essex North.
George W. Garland,
W. D. Lamb.

Essex South.
J. S. Emerson,
William Mack,
G. A. Priest,
O. B. Shreve.

Franklin.
Ebenezer A. Deane,
J. W. D. Osgood.

Hampden.
Cyrus Bell,
F. W. Chapin,
G. C. McClean.

Hampshire.
W. M. Trow.

Middlesex East.
John M. Harlow,
Frederic Winsor.

Middlesex South.
B. F. D. Adams,
Horace Chapin,
S. Hanscom,
A. Hosmer,
F. D. Lord,
H. E. Marion,
H. H. Pillsbury,
C. B. Shute,
J. B. Taylor,
Charles E. Vaughan,
Henry P. Walcott,
G. A. Warren,
W. W. Wellington,
Morrill Wyman.

Norfolk.
B. E. Cotting,
P. O'M. Edson,
Robert T. Edes,
David S. Fogg,
F. F. Forsaith,
James Morison,
A. H. Nichols,
Joel Seaverns,
C. E. Stedman,
Joseph Stedman,
J. H. Streeter,
Charles C. Tower.

Plymouth.
E. A. Chase,
J. C. Gleason,
W. R. Howes,
Asa Millet,
N. B. Tanner.

Suffolk.
S. L. Abbot,
James Ayer,
H. H. A. Beach,
H. I. Bowditch,
B. Brown,
Samuel Cabot,
D. W. Cheever,
P. M. Crane,
Calvin Ellis,
R. H. Fitz,
S. A. Green,
F. B. Greenough,
A. B. Hall,
D. H. Hayden,
R. M. Hodges,
C. D. Homans,
John Homans,
William Ingalls,

J. B. S. Jackson,
J. F. Jarvis,
B. J. Jeffries,
G. H. Lyman,
Francis Minot,
F. E. Oliver,
J. P. Reynolds,
W. L. Richardson,
G. C. Shattuck,
A. D. Sinclair,
D. H. Storer,
J. E. Tyler,
O. F. Wadsworth,
C. E. Ware,
J. C. Warren,
J. C. White,
H. W. Williams.

Worcester.
Oramel Martin,

J. H. Robinson,
Joseph Sargent,
J. T. O. West,
E. M. Wheeler,
C. A. Wilcox.

Worcester North.
Benj. H. Hartwell.

Total, 101.

The Secretary's record of the previous meeting was read and accepted.

The names of the Nominating Committee as chosen by the District Societies, in accordance with the standing resolve of the Councillors, were read.

The Committee was composed as follows:

Drs.	Peter Pineo	Barnstable.
	C. T. Collins	Berkshire.
	Joseph Murphy	Bristol North.
	W. W. Comstock	Bristol South.
	G. W. Garland	Essex North.
	W. Mack	Essex South.
	E. A. Deane	Franklin.
	Cyrus Bell	Hampden.
	Pliny Earle	Hampshire.
	C. A. Savory	Middlesex North.
	H. P. Walcott	Middlesex South.
	J. M. Harlow	Middlesex East.
	C. E. Stedman	Norfolk.
	J. C. Gleason	Plymouth.
	G. C. Shattuck	Suffolk.
	T. H. Gage	Worcester.
	George Jewett	Worcester North.

The members from Worcester and Worcester North being absent, Drs. O. Martin and B. H. Hartwell were substituted as the representatives from these Districts.

The Secretary read the names of new and of deceased Fellows.

The Treasurer's annual report was read.

The Auditing Committee reported through Dr. Wadsworth that the accounts were correctly cast and properly vouched.

The Treasurer's report was then accepted.

The Committee on Finances reported through Dr. Lyman, and stated that there had been an excess of receipts over expenditures of $2133.77. In accordance with the order passed at the meeting of the Councillors in October, 1876, the Committee recommended a dividend to be made to District Societies to the extent of 75 per cent. of this surplus.

The report of the Committee was accepted and its recommendations were adopted.

The Committee on Membership and Resignations reported through Dr. Ayer, and recommended that the following Fellows be allowed to resign:

Drs. Andrew M. Smith, of Williamstown.
W. Thornton Parker, of Manchester, Vt.
J. O. Webster, of Augusta, Me.
Samuel Q. Robinson, U. S. Army.
R. J. Hallaren, of Nashua, N. H.

Also, that the following be allowed to retire:

Drs. Edward Warren, of Newton.
Edward Jarvis, of Dorchester.
Edward M. Wheeler, of Spencer.
Norman Smith, of Nashua, N. H.

Also, that the following names of Fellows who have surrendered their Fellowship under By-Law VI., by removal from the State, be dropped from the roll:

Drs. Walter Channing, of Auburn, N. Y.
James T. Boutelle, of Hampton, Va.
John L. Clark, of Providence, R. I.
Leonard Woods, of Pittsford, Vt.
Franklin A. Wood, of Santa Barbara, Cal.

Also, that the following be dropped for non-payment of dues:

Drs. Francis R. Staehli, of Roxbury.
Ira Perry, of Roslindale.
Noyes Barstow, of Belchertown.

The report of the Committee was accepted and its recommendations were adopted.

The Committee on the Library, through its Chairman, Dr. Seaverns, presented its report, together with the report of the Librarian, Dr. Hayden. The Committee recommended and the Councillors

Voted, That the Librarian be allowed to keep for sale, at a cost sufficient to cover the expenses of publication, twenty-five copies of the Publications of the Society.

The Committee on Publications reported through its Chairman, Dr. Shattuck.

The Committee on Ethics and Discipline reported through its Chairman, Dr. Cheever. The Committee recommended for the adoption of the Councillors two resolutions which, after some discussion and slight amendment, were adopted as follows :—

Voted, That all charges against Fellows of the Massachusetts Medical Society of *procuring criminal abortion*, or deaths resulting therefrom, should be referred by the Fellow cognizant thereof to the proper *legal officer* of the District in which they occur.

Voted, That all other charges against Fellows of the Massachusetts Medical Society of a *criminal nature* should be referred by the Fellow cognizant thereof to the *legal prosecuting officer* of the District where they occur.

The Committee on Nominations reported a list of candidates for officers of the Society for the ensuing year. They also stated that Dr. Osgood declined re-election as Vice President.

The following were duly elected by ballot :—

For *President*, ... Dr. William Cogswell.
Vice President, ... Dr. Gilman Kimball.
Treasurer, ... Dr. F. W. Draper.
Corresponding Secretary, . . . Dr. C. W. Swan.
Recording Secretary, ... Dr. F. W. Goss.
Librarian, ... Dr. D. H. Hayden.

Viva voce, Dr. FRANCIS MINOT, of Boston, was chosen Orator, and

Dr. PETER PINEO, of Hyannis, Anniversary Chairman for the next Annual Meeting.

Voted, That the next ***Annual Meeting*** be held in Boston, on ***the second Wednesday in June, 1878.***

On nomination by the President, the following Standing Committees were appointed:

Of Arrangements.

R. Amory, J. Collins Warren, J. O. Green,
C. J. Blake, W. L. Richardson, A. L. Mason.

On Publications.

G. C. Shattuck, R. M. Hodges, B. E. Cotting.

On Resignations.

J. Ayer, F. Minot, J. C. White.

On Finances.

G. H. Lyman, C. D. Homans, W. W. Wellington.

To Procure Scientific Papers.

H. W. Williams, Calvin Ellis, F. K. Paddock,
G. S. Stebbins, E. Wigglesworth.

On Ethics and Discipline.

D. W. Cheever, R. L. Hodgdon, G. J. Townsend,
G. E. Francis, A. H. Johnson.

Dr. Cotting, in behalf of the Committee on Coroners, reported that the cause they were sent forth to advocate had met with speedy and remarkable success, a new law having been passed by which the community will be greatly benefited, the dignity of the profession sustained, and the furtherance of justice promoted. He therefore moved, and the Councillors

Voted, That the Committee be discharged from further service in the matter.

On motion of Dr. Millet it was

Voted, That the thanks of the Councillors be presented to the Committee for the acceptable manner in which they had performed their arduous duties.

Dr. Hosmer, for the Committee on By-Laws of the District Societies, reported progress.

The Committee offered and the Councillors

Voted, That by the proper construction and interpretation of lines 19–22 of Art. XX. of the By-Laws of the Society, whenever any District Medical Society, excepting that of the County of Suffolk, holds a *stated* meeting, the Board of Censors acting for that District must hold a meeting on the same day.

Voted, That a District Medical Society cannot legally hold an organized meeting for any purpose whatever at any other than some place within the limits of its own District.

The Secretary announced that a gift of five hundred copies of the Boston City Hospital Reports, for distribution among the Fellows of the Society, had been made by the Trustees of the Hospital. It was thereupon

Voted, That the thanks of the Councillors be presented to the Trustees of the Boston City Hospital for their generous gift.

On motion of Dr. Cotting it was

Ordered, That there shall be allowed to the members of the Committee on Ethics and Discipline such mileage, not to exceed five cents per mile, and such incidental expenditures, as are required for the proper discharge of their duties.

Voted, That should occasion arise, the Officers of the Society be empowered to appoint Delegates to the International Medical Congress to be held in Geneva, Sept. 9–15, 1877.

At 9.15 P.M. the Councillors adjourned.

FRANCIS W. GOSS,
Recording Secretary.

Massachusetts Medical Society.

PROCEEDINGS OF THE SOCIETY.

ANNUAL MEETING.

First Day.

The Society met in the hall of the Lowell Institute, Boston, on Tuesday, June 12, 1877, at 12 o'clock, M.

The President, Dr. William Cogswell, in the Chair.

The reading of Scientific Papers was begun as follows:—

I.—*Erysipelas and Puerperal Fever.* By John M. Crocker, M.D., of Provincetown. After the reading of the paper a discussion ensued, in which Drs. Cornell, Jackson, Osgood and Pierce took part.

II.—*Diphtheria.* By John H. Gilman, M.D., of Lowell. Following the reading of the paper there was a prolonged discussion, in which Drs. T. B. Curtis, Cornell, Bronson, Chenery, Trow, Clarke, Robinson, White and others engaged.

At 2 o'clock, P.M., the Society adjourned till 3 o'clock, when the reading of papers was continued as follows:—

III.—*Alcohol; its Use and Abuse in Disease.* By William W. Eaton, M.D., of Danvers. Remarks were made upon this paper by Drs. Chenery, Bowker and Garland.

IV.—*Cell Emigration and its Relation to Inflammatory Processes.* By George M. Garland, M.D., of Boston.

V.—*Intra-Uterine Injections in Post-Partum Hemorrhage.* By Samuel W. Torrey, M.D., of Beverly.

VI.—*Splints for Colles' Fracture.* By William P. Bolles, M.D., of Dorchester.

VII.—*A Case of Skin Grafting.* By W. Symington Brown, M.D., of Stoneham.

At 6 o'clock, P.M., the Society adjourned.

FRANCIS W. GOSS,
Recording Secretary.

Second Day.

The Society met in the hall of the Lowell Institute, Boston, on Wednesday, June 13, 1877, at 9 o'clock, A.M.

The President, Dr. William Cogswell, in the Chair.

The record of the last Annual Meeting and of a subsequent adjourned meeting was read and accepted.

Voted, That when the Society adjourn it be to meet at half past two o'clock, P.M., on Wednesday, October 3, 1877, at the place where the Councillors shall meet on that day.

The action of the Board of Trial in the following cases was confirmed, and it was voted in accordance with the By-Laws that the following Fellows be and are expelled from their membership of the Massachusetts Medical Society.

Samuel Alden, of Bridgewater.
Stephen Madison Gale, of Newburyport.
Charles Thacher Hubbard, of Taunton.
Charles Augustus Wheeler, of Leominster.

The Secretary read the names of Fellows admitted since the last Annual Meeting, and of Fellows whose deaths had been reported.

List of Fellows admitted since June 13, 1876.

1877.	Abbott, John Hammill,	Fall River.
1876.	Bartlett, Benjamin Webber,	Rowley.
1877.	Bielby, Porteus Posket,	Salem.
1877.	Burton, Henry Wingfield,	Brighton.
1877.	Clift, Joseph Wales,	Harwich Port.
1877.	Colton, John Jay,	Lowell.
1877.	Cooper, Charles Wendell,	Boston.
1876.	Craigue, Isaac,	Lawrence.
1877.	Cunningham, Thomas Edward,	Cambridgeport.
1877.	Cutter, John Clarence,	Boston.
1876.	Day, John Davis,	Great Barrington.
1877.	Dodge, Edgar Simon,	Rainsford Island.
1877.	Dunbar, Henry Orin,	Athol.
1877.	Foley, John Bernard,	Boston.
1877.	French, Justus Crosby,	Dedham.
1877.	Heed, Harmon,	Pelham.
1877.	Howard, Eugene,	Newburyport.
1876.	Hunking, Charles Dustin,	Haverhill.
1876.	Huntress, Leonard, Jr.,	Lowell.
1877.	Huntington, Abel,	Boston.
1877.	Jackson, John Henry,	Fall River.
1877.	Jordan, Reuben Brackett,	Swampscott.
1877.	Kendrick, Ford,	West Warren.
1877.	Kennealy, John Henry,	South Boston.
1877.	Lewis, Charles Ward,	Boston.
1876.	Loring, Robert Pearmain,	Newton Centre.
1876.	Lussier, Jules Guernon,	North Adams.
1876.	Marion, Otis Henry,	Brighton.
1876.	Marston, Enoch Quimby,	Tewksbury.
1877.	Miller, Ernest Parker,	Fitchburg.
1876.	Oviatt, George Alexander, Jr.,	South Sudbury.
1877.	Parks, Edward Luther,	Boston.
1877.	Parsons, Charles Wesley,	Worthington.
1877.	Patterson, David Nelson,	Lowell.
1876.	Putney, George Ellis,	Boston.
1877.	Read, George Mumford,	South Deerfield.
1876	Reed, Thomas Greenhalgh,	South Boston.
1876.	Robertson, William Duncan,	Boston.
1876.	Sanborn, Edwin Aaron,	East Somerville.
1876.	Sanborn, Wilbur Fiske,	East Somerville.
1877.	Seymour, James Dwight,	Worthington.
1876.	Sheldon, Chauncey Coolidge,	Boston.
1876.	Spaulding, Charles Parker,	Lowell.
1877.	Stahl, Albert Thomas,	Leominster.

1877.	Stockman, Charles Wesley,	.	Miller's Falls.
1876.	Thompson, Andrew Jackson,	.	Salem.
1877.	Towle, Charles Henry,	.	Dorchester.
1877.	Townshend, George Drew,	.	Roxbury.
1877.	Trueworthy, Edwin Weston,	.	Lowell.
1877.	Webber, Frank Orlando,	.	Cambridgeport.
1877.	Whittemore, James Henry,	.	Boston.

Total, 51.

List of Deceased Fellows.

Admitted.	Name.	Residence.	Date of Death.	Age.
1833	*Andral, Gabriel	Paris, France	Feb. 13, 1876	78
1846	Bachelder, John	Plymouth	Oct. 28, 1876	58
1820	Bacon, David	Buxton, Me.	1848	74
1844	Ball, Benjamin L.	China	1860	
1842	Bell, Artemas	Feeding Hills	Mh. 18, 1877	61
1858	Bement, John W.	Baldwinsville	1875	
1839	Braman, Isaac Gordon	Brighton	July 31, 1876	63
1822	Brewster, Royal	Buxton, Me.	1835	64
1876	Bridgham, Jairus Greenwood	Woburn	Dec. 8, 1876	21
1839	Briggs, Lemuel Williams	Bristol, R. I.	1850	
1808	Brown, Benjamin	Waldoboro', Me.	1831	75
1876	Brown, John Coffin Jones	Boston	Oct. 3, 1876	24
1844	Buckingham, Charles Edward	Boston	Feb. 19, 1877	55
1854	Burgess, Ebenezer Prince	Dedham	May 13, 1877	50
1813	Buxton, Edmund	Warren, Me	1828	59
1845	Carpenter, Seba	Attleboro'	Mh. 12, 1874	71
1820	Carr, Robert	Hebron, Me.	1852	68
1814	Channing, Walter	Brookline	July 27, 1876	90
1837	Chapin, Alonzo	Winchester	Dec. 24, 1876	72
1804	Clark, Hezekiah	Pompey, N. Y.	1826	69
1876	Craigue, Isaac	Lawrence	Mh. 12, 1877	45
1808	Cushing, Isaiah	Thomaston, Me.	1819	41
1835	Dorrance, Gardner	Attica, N. Y.	1873	74
1820	Emery, Caleb	Elliot, Me.	1831	42
1829	Fearing, Elisha Pope	Nantucket	Je. 25, 1876	91
1868	Fellows, Charles Melroy	Lawrence	Dec. 23, 1876	45
1808	Folsome, Dudley	Gorham, Me.	1836	67
1875	Fox, George Townsend	Boston	Jan'y 1877	29
1852	Freeland, Chester J.	Fitchburg	1860	67
1856	Gage, Daniel Parker	Lowell	Jan. 31, 1877	48
1813	Hall, Abiel	Alfred, Me.	1829	69
1808	Hubbard, John	Redfield, Me.	1838	79
1808	Hyde, John A.	Freeport, Me.	1851	85
1826	Jeffries, John	Boston	July 16, 1876	80
1838	Kinniston, Timothy	E. Haverhill	Dec. 22, 1876	82
1819	Leonard, George	Taunton	1865	82
1862	Livingstone, Alfred	Lowell	Mh. 19, 1877	39
1847	McGowan, Dennis	S. Boston	1853	
1868	Merrill, David	Peacham, Vt.	1871	
1813	Merrill, John	Portland, Me.	1855	73
1808	Mitchell, Ammi R.		1824	62
1875	Moors, Edward Jesse	Lowell	June 6, 1877	28
1842	Morland, William Wallace	Boston	Nov. 25, 1876	58

Admitted.	Name.	Residence.	Date of Death.	Age.
1813	Moulton, Jotham	Bucksport, Me.	1857	86
1830	Osgood, Joseph	Peabody	Sep. 30, 1876	71
1808	Page, Benjamin	Hallowell, Me.	1844	74
1838	Parker, Hiram	Lowell	May 2, 1877	68
1839	Pillsbury, Harlin	Lowell	Apr. 12, 1877	79
1842	Porter, Isaac	Decatur, Wis.	1854	70
1832	Porter, Moses	Waterford, Min.	1876	76
1852	Puffer, Chenery	Shelburne Falls	Mh. 6, 1877	73
1873	Reynolds, William B.	Lynn	Jan. 11, 1877	48
1838	Robinson, Erastus	Northbridge	1854	80
1827	Shaw, Samuel	Plainfield	1870	80
1841	Smith, John	Wales		
	Smith, Moses	Hawley	1849	74
1813	Snell, Issachar	Winthrop, Me.	1847	72
1839	Southworth, Newton	——, Iowa	1863	60
1852	Stearns, Samuel	Greenfield	1867	77
1813	Stockbridge, John	Bath, Me.	1849	69
1852	Stratton, Elijah	Northfield	July 15, 1876	65
1822	Sweet, Moses	Parsonsfield, Me.	1862	72
1822	Tappan, Enoch S.	Augusta, Me.	1847	66
1822	Tewksbury, Jacob	Oxford, Me.	1848	65
1822	Theobold, Philip E.	Wiscasset, Me.	1845	62
1822	Trafton, Charles	S. Berwick, Me.	1855	68
1820	Warren, Joseph	Middlefield		
1849	Webster, Joseph Wilson	Acushnet	July 9, 1876	
1822	Weed, Samuel	Portland, Me.	1857	83
1829	Ware, Jonathan	Milton	June 6, 1877	80
1838	Wheelock, Alb't Thompson.	Belfast, Me.	Mh. 5, 1876	62
1867	Whittemore, Thos. Kendall.	Grafton	May, 1877	39
1831	Williams, Jacob	Kensington, N.H	1857	70
1858	Windship, George Barker.	Boston	Sep. 12, 1876	42

* Honorary.

Total, 74

The Treasurer, Dr. Draper, read his Annual Report.

The following delegates from other State Medical Societies were introduced by the President:—

New York Medical Society.—Drs. J. F. Jenkins, H. P. Farnham, W. B. Chase.

Connecticut Medical Society.—Dr. C. W. Chamberlain.

New Hampshire Medical Society.—Dr. H. Eastman.

In brief addresses Dr. Jenkins presented the good wishes of the New York Medical Society, and Dr. Chamberlain those of the Connecticut Medical Society.

[A telegram from the Rhode Island Medical Society in session on the 13th, sending "greeting and good wishes to the Massachusetts Medical Society," was not received till the day subsequent to the meeting.]

Papers were read as follows :—

VIII.—Reports from District Societies by E. Wigglesworth, M.D., of Boston. They consisted of :—1. From Franklin District, by Dr. E. R. Campbell, of Turner's Falls. 2. From Hampden District, by Dr. F. W. Chapin, of Springfield. 3. From Middlesex East District, by Dr. F. Winsor, of Winchester. 4. From Suffolk District, by Dr. T. B. Curtis, of Boston.

IX.—*Endo-Metritis and its Treatment by Scarification.* By Henry W. Dudley, M.D., of Abington.

X.—*Value of Medical Opinions.* By George S. Stebbins, M.D., of Springfield.

XI.—*Surgical Injuries of the Head.* By George Jewett, M.D., of Fitchburg.

XII.—*A Disease Peculiar to Young Men.* By George W. Doane, M.D., of Hyannis.

Dr. Martin, of Roxbury, exhibited Carr's splint for the treatment of Colles' fracture.

Dr. Marcy, of Cambridge, showed an apparatus of his own invention for the rolling of plaster bandages.

At 12 o'clock the Annual Discourse was delivered by Dr. John R. Bronson, of Attleboro'.

At the close of the address the Society presented an appropriate vote of thanks to the orator.

At 1 o'clock, P.M., the Society adjourned to the Music Hall, where more than six hundred Fellows took part in the exercises of the Anniversary Dinner.

FRANCIS W. GOSS,
Recording Secretary.

TREASURER'S REPORT, 1877.

THE Treasurer begs leave to report that he has received for the Society during the past year $7,816.33; that he has expended $5,692.56; and that the balance in his hands amounts to $2,123.77. The accompanying analysis account gives a detailed statement of the items of receipt and expenditure.

The Society's funded property has been increased during the year by $1,000, the gift of one of the Fellows who desired the income of his donation to be appropriated to the providing of a lunch for the Councillors at their Stated Meetings in October and February.

The property of the Society is disposed as follows:

Shattuck Fund . .	$9,166.87
Phillips Fund, . .	10,000.00
General Fund, . .	11,254.30
Cotting Fund, . .	1,000.00
Total,	$31,421.17

Respectfully submitted,

F. W. DRAPER,
Treasurer.

o

DR. F. W. Draper, Treasurer, in Account with Massachusetts Medical Society. CR.

Balance from last account,		$362 14
Sundry Assessments paid to Treasurer		1895 00
Assessments received from DISTRICT TREASURERS:		
Barnstable,	$135 00	
Berkshire,	250 00	
Bristol North,	80 00	
Essex North,	155 00	
Essex South,	415 00	
Franklin,	90 00	
Hampden,	175 00	
Hampshire,	5 00	
Middlesex North,	385 00	
Norfolk,	415 00	
Plymouth,	95 00	
Suffolk,	1370 00	
Worcester North,	125 00	3695 00
Interest — General Fund,	$675 18	
Shattuck Fund,	550 01	
Phillips Fund,	535 00	
Cotting Fund,	50 00	
		1810 19
Diplomas,		45 00
Incidental,		9 00
		$7816 33

Paid to DISTRICT TREASURERS:			
Barnstable,	$9 35		
Berkshire,	28 33		
Bristol North,	10 75		
Essex North,	9 25		
Essex South,	38 25		
Franklin,	8 00		
Hampden,	73 27		
Middlesex North,	20 01		
Norfolk,	123 75		
Plymouth,	4 75		
Suffolk,	95 40		
Worcester North,	52 25		473 36
Censors' Fees,			186 00
Publications (including printing),			2325 59
Rent,			100 00
Exp. of Annual Meeting, 1876: Dinner,		1296 25	
Music Hall,		202 00	
Music,		127 00	
Cigars,		92 00	
Incidentals,		45 45	1762 70
Councillors' Lunches,			50 00
Incidentals, Advertising, &c.			367 21
Trial Commissioners' Fees,			27 70
Treasurer's Salary,			400 00
			5692 56
Balance on hand,			2123 77
			$7816 33

Officers of the Massachusetts Medical Society.

1877–78.

Chosen June 12, 1877.

WILLIAM COGSWELL,	Bradford,	President.
GILMAN KIMBALL,	Lowell,	Vice-President.
FRANK W. DRAPER,	Boston,	Treasurer.
CHARLES W. SWAN,	Boston,	Cor. Secretary.
FRANCIS W. GOSS,	Roxbury,	Rec. Secretary.
DAVID H. HAYDEN,	Boston,	Librarian.
FRANCIS MINOT,	Boston,	Orator.
PETER PINEO,	Hyannis,	Anniv. Chairman.

Committee of Arrangements.

R. Amory, W. L. Richardson,
C. J. Blake, J. O. Green,
J. Collins Warren, A. L. Mason.

Standing Committees.

On Publications.

G. C. Shattuck, R. M. Hodges, B. E. Cotting.

On Resignations.

J. Ayer, F. Minot, J. C. White.

On Finances.

G. H. Lyman, C. D. Homans, W. W. Wellington.

To Procure Scientific Papers.

H. W. Williams, Calvin Ellis, F. K. Paddock,
G. S. Stebbins, E. Wigglesworth.

On Ethics and Discipline.

D. W. Cheever, R. L. Hodgdon, G. J. Townsend,
G. E. Francis, A. H. Johnson.

Presidents of District Societies—Vice-Presidents (Ex-Officiis),

[Arranged according to Seniority.]

S. H. Gould,
George Jewett,
H. N. Jones,
John P. Maynard,
C. D. Homans,
J. Dwelly,
R. L. Hodgdon,
F. A. Howe,
H. Clarke,
W. W. Godding,
C. D. Mills,
W. S. Brown,
H. G. Stickney,
Lorenzo S. Fox,
A. H. Johnson,
O. F. Bigelow,
A. C. Walker.

Councillors.

Barnstable.—Drs. T. R. Clement, Centreville; B. D. Gifford, Chatham; G. N. Munsell, Harwich; W. J. Nickerson, South Yarmouth; Peter Pineo, Hyannis.

Berkshire.—Drs. N. S. Babbitt, North Adams; Clarkson T. Collins, Great Barrington; W. W. Leavitt, W. Stockbridge; W. E. Vermilye, Pittsfield; E. Wright, Lee.

Bristol North.—Drs. John R. Bronson, Attleboro'; Chas. Howe, Joseph Murphy, Silas D. Presbrey, Taunton.

Bristol South.—Drs. George Atwood, Fairhaven; W. W. Comstock, Middleboro'; J. Dwelly, Fall River; F. H. Hooper, New Bedford; E. T. Learned, Fall River; C. L. Swasey, New Bedford.

Essex North.—Drs. E. Cross, Newburyport; J. Crowell, Haverhill; H. J. Cushing, West Amesbury; G. W. Garland, Lawrence; R. C. Huse, Georgetown; W. D. Lamb, Lawrence; C. P. Morrill, North Andover; S. K. Towle, Haverhill.

Essex South.—Drs. David Choate, Salem; D. F. Drew, J. S. Emerson, Lynn; Arthur Kemble, William Mack, Salem; E. Newhall, Lynn; G. A. Priest, Manchester; O. B. Shreve, Salem.

Franklin.—Drs. F. J. Canedy, Shelburne Falls; E. A. Deane, Montague; J. W. D. Osgood, Greenfield.

Hampden.—Drs. Cyrus Bell, Agawam; S. D. Brooks, F. W. Chapin, S. Lawton, G. C. McClean, Springfield; A. F. Reed, Holyoke.

Hampshire.—Drs. Pliny Earle, Northampton; W. Lester, Hadley; D. Thompson, Northampton; W. M. Trow, Easthampton.

Middlesex East.—Drs. S. W. Abbott, Wakefield; John M. Harlow, Woburn; Frederic Winsor, Winchester.

Middlesex North.—Drs. C. Dutton, Tyngsborough; C. M. Fisk, Gilman Kimball, *Vice-President*, W. H. Leighton, G. E. Pinkham, Charles A. Savory, Joel Spalding, Lowell.

Middlesex South.—Drs. B. F. D. Adams, Waltham; H. Chapin, Somerville; S. W. Driver, Cambridge; E. J. Forster, Charlestown; S. Hanscom, East Somerville; A. Hosmer, Watertown; Otis E. Hunt, Newton; A. C. Livermore, Stowe; F. D. Lord, Newton Lower Falls; H. E. Marion, Brighton; H. H. Pillsbury, Medford; C. B. Shute, Malden; J. B. Taylor, E. Cambridge; C. E. Vaughan, H. P. Walcott, Cambridge; G. A. Warren, Hopkinton; W. W. Wellington, Cambridgeport; Morrill Wyman, Cambridge.

Norfolk.—Drs. George J. Arnold, B. E. Cotting, R. T. Edes, P. O'M. Edson, Roxbury; D. S. Fogg, Norwood; F. F. Forsaith, Weymouth; J. G. S. Hitchcock, Foxboro'; James Morison, Quincy; A. H. Nichols, Joel Seaverns, Roxbury; C. E. Stedman, Dorchester; J. Stedman, Jamaica Plain; J. H. Streeter, Roxbury; C. C. Tower, South Weymouth.

Plymouth.—Drs. N. P. Brownell, South Scituate; E. A. Chase, Brockton; J. C. Gleason, E. Abington; W. R. Howes, Hanover; Asa Millet, East Bridgewater; N. B. Tanner, North Abington.

Suffolk.—Drs. S. L. Abbot, J. Ayer, H. H. A. Beach, H. J. Bigelow, H. I. Bowditch, B. Brown, S. Cabot, D. W. Cheever, P. M. Crane, Hall Curtis, H. Derby, F. W. Draper,

Treasurer, C. Ellis, R. H. Fitz, G. H. Gay, S. A. Green, F. B. Greenough, A. B. Hall, G. Hay, D. H. Hayden, *Librarian*, R. M. Hodges, C. D. Homans, J. Homans, W. Ingalls, J. B. S. Jackson, J. F. Jarvis, B. J. Jeffries, G. H. Lyman, F. Minot, F. E. Oliver, H. K. Oliver, J. P. Reynolds, W. L. Richardson, G. C. Shattuck, A. D. Sinclair, D. H. Storer, C. W. Swan, *Corresponding Secretary*, J. E. Tyler, O. F. Wadsworth, C. E. Ware, J. C. Warren, J. C. White, H. W. Williams, of Boston.

Worcester.—Drs. H. Clarke, Thomas H. Gage, Oramel Martin, Worcester; J. H. Robinson, Southboro'; J. Sargent, Worcester; W. Tyler, North Brookfield; E. Warner, Worcester; J. T. O. West, Princeton; E. M. Wheeler, Spencer; C. A. Wilcox, Uxbridge.

Worcester North.—Drs. C. C. Field, Leominster; Benjamin H. Hartwell, Ayer; George Jewett, Fitchburgh; Ira Russell, Winchendon.

Censors.

Barnstable.—Drs. T. R. Clement, Centreville; J. M. Crocker, Provincetown; G. W. Doane, Hyannis; B. D. Gifford, Chatham; J. M. Smith, Barnstable.

Berkshire.—Drs. W. M. Mercer, Pittsfield; L. Miller, Stockbridge; F. K. Paddock, O. S. Roberts, Abner M. Smith, Pittsfield.

Bristol North.—Drs. W. G. Allen, Mansfield; E. J. Bassett, Taunton; H. C. Bullard, N. Attleboro'; George L. Ellis, S. D. Presbrey, Taunton.

Bristol South.—Drs. B. J. Handy, Fall River; Henry Johnson, C. D. Prescott, New Bedford; Isaac Smith, Jr., J. B. Whitaker, Fall River.

Essex North.—Drs. C. G. Carleton, C. N. Chamberlain, Lawrence; J. C. How, Haverhill; E. P. Hurd, Newburyport; O. F. Seavey, W. Amesbury.

Essex South.—Drs. D. H. Batchelder, Danversport; C. A. Carlton, Salem; C. A. Lovejoy, Lynn; C. C. Pike, Peabody; S. W. Torrey, Beverly.

Franklin.—Drs. E. Barton, South Orange; E. C. Coy, Montague City; A. C. Deane, Greenfield; C. M. Duncan, Shelburne; C. E. Severance, Shelburne Falls.

Hampden.—Drs. H. C. Belden, West Springfield; L. S. Brooks, S. W. Bowles, Charles P. Kemp, G. C. McClean, Springfield.

Hampshire.—Drs. S. A. Fisk, Northampton; T. Gilfillan, Cummington; J. R. Greenleaf, Haydenville; C. Seymour, Northampton; C. B. Smith, Granby.

Middlesex East.—Drs. S. W. Abbott, Wakefield; A. H. Cowdrey, Stoneham; J. O. Dow, Reading; D. W. Wight, Frederic Winsor, Winchester.

Middlesex North.—Drs. E. B. Aldrich, A. W. Buttrick, J. H. Gilman, F. Nickerson, Hermon J. Smith, Lowell.

Middlesex South.—Drs. E. W. Emerson, Concord; W. P. Giddings, Allston; J. L. Hildreth, Cambridge; E. H. Stevens, North Cambridge; R. Willis, Somerville.

Norfolk.—Drs. J. W. Chase, Dedham; B. Cushing, Dorchester; George Faulkner, Jamaica Plain; F. W. Goss, *Recording Secretary*, Roxbury; W. B. Trull, Brookline.

Plymouth.—Drs. H. F. Borden, Brockton; J. B. Brewster, Plymouth; F. Collamore, North Pembroke; H. W. Dudley, Abington; F. S. Thomas, Hanson.

Suffolk.—Drs. T. Dwight; Allen M. Sumner, George G. Tarbell, Thomas Waterman, Edward N. Whittier, Boston.

Worcester.—Drs. G. J. Bull, Worcester; E. B. Harvey, Westboro'; J. W. Hastings, West Warren; Emerson Warner, W. H. Workman, Worcester.

Worcester North.—Drs. Josiah M. Blood, Ashby; Caleb C. Field, Leominster; J. P. Lynde, Athol; Alfred Miller, Fitchburgh; Edward J. Sawyer, Gardner.

Commissioners of Trials.

Barnstable . . .	W. O. G. Springer .	Yarmouth Port.
Berkshire	Abner M. Smith .	Pittsfield.
Bristol North . .	John R. Bronson .	Attleboro'.
Bristol South . .	R. T. Davis . . .	Fall River.
Essex North . . .	Walter H. Kimball .	Andover.
Essex South . . .	D. Perley	Lynn.
Franklin	R. C. Ward . . .	Northfield.
Hampden	W. J. Sawin . . .	Chicopee Falls.
Hampshire . . .	G. Cox	Hadley.
Middlesex East . .	S. W. Abbott . .	Wakefield.
Middlesex North .	N. Allen	Lowell.
Middlesex South .	H. O. Marcy . . .	Cambridge.
Norfolk	T. H. Dearing . .	Braintree.
Plymouth	J. S. Hammond . .	Plympton.
Suffolk	Charles W. Swan .	Boston.
Worcester . . .	L. F. Billings . .	Barre.
Worcester North .	C. C. Field . . .	Leominster.

Officers of the District Medical Societies.

Barnstable.—Dr. S. H. Gould, Brewster, *President;* Dr. Benjamin D. Gifford, South Chatham, *Vice-President;* Dr. W. J. Nickerson, South Yarmouth, *Secretary;* Dr. Chauncey M. Hulbert, South Dennis, *Treasurer;* Dr. J. M. Smith, Barnstable, *Librarian.*

Berkshire.—Dr. C. D. Mills, Pittsfield, *President;* Dr. W. W. Leavitt, West Stockbridge, *Vice-President;* Dr. J. F. A. Adams, Pittsfield, *Secretary;* Dr. W. M. Mercer, Pittsfield, *Treasurer;* Dr. O. S. Roberts, Pittsfield, *Librarian.*

Bristol North.—Dr. W. W. Godding, Taunton, *President;* Dr. Nomus Paige, Taunton, *Vice-President;* Dr. W. S. Robinson, Taunton, *Secretary;* Dr. C. Howe, Taunton, *Treasurer;* Dr. A. S. Deane, Taunton, *Librarian.*

Bristol South.—Dr. J. Dwelly, Fall River, *President;* Dr. E. P. Abbé, New Bedford, *Vice-President;* Dr. Charles D. Prescott, New Bedford, *Secretary, Treasurer and Librarian.*

Essex North.—Dr. Francis A. Howe, Newburyport, *President;* Dr. W. H. Kimball, Andover, *Vice-President;* Dr. George W. Snow, Newburyport, *Secretary and Treasurer;* Dr. S. Drinkwater, Haverhill, *Librarian.*

Essex South.—Dr. Amos H. Johnson, Salem, *President;* Dr. J. W. Goodell, Lynn, *Vice-President;* Dr. R. F. Dearborn, Lynn, *Secretary;* Dr. William Mack, Salem, *Treasurer;* Dr. P. P. Bielby, Salem, *Librarian.*

Franklin.—Dr. A C. Walker, Greenfield, *President;* Dr. C. L. Fisk, Greenfield, *Vice-President;* Dr. C. Bowker, Bernardston, *Secretary, Treasurer and Librarian.*

Hampden.—Dr. H. G. Stickney, Springfield, *President;* Dr. G. W. Davis, Holyoke, *Vice-President;* Dr. Frederic W. Chapin, Springfield, *Secretary, Treasurer and Librarian.*

Hampshire.—Dr. O. F. Bigelow, Amherst, *President;* Dr. C. B. Smith, Granby, *Vice-President;* Dr. J. B. Learned, Florence, *Secretary;* Dr. James Dunlap, Northampton, *Treasurer.*

Middlesex East.—Dr. W. Symington Brown, Stoneham, *President;* Dr. F. F. Brown, Reading, *Vice-President;* Dr. J. R. Barss, Melrose, *Secretary;* Dr. J. O. Dow, Reading, *Treasurer and Librarian.*

Middlesex North.—Dr. Lorenzo S. Fox, Lowell, *President;* Dr. George H. Pillsbury, Lowell, *Vice-President;* Dr. George C. Osgood, Lowell, *Secretary;* Dr. Nathan B. Edwards, North Chelmsford, *Treasurer;* Dr. M. G. Parker, Lowell, *Librarian.*

Middlesex South.—Dr. R. L. Hodgdon, Arlington, *President;* Dr. A. C. Webber, Cambridgeport, *Vice-President;* Dr. Charles E. Vaughan, Cambridge, *Secretary;* Dr. J. W. Willis, Waltham, *Treasurer;* Dr. M. A. Morris, Charlestown, *Librarian.*

Norfolk.—Dr. J. P. Maynard, Dedham, *President;* Dr. Robert Amory, Brookline, *Vice-President;* Dr. H. R. Stedman, Roxbury, *Secretary and Librarian;* Dr. George J. Arnold, Roxbury, *Treasurer.*

Plymouth.—Dr. Henry N. Jones, Kingston, *President;* Dr. H. W. Dudley, Abington, *Vice-President;* Dr. Benjamin F. Hastings, S. Abington, *Secretary and Treasurer;* Dr. B. Hubbard, Plymouth, *Librarian.*

Suffolk.—Dr. Charles D. Homans, Boston, *President;* Dr. Dr. C. Ellis, Boston, *Vice-President;* Dr. A. L. Mason, Boston, *Secretary;* Dr. Adino B. Hall, Boston, *Treasurer;* Dr. B. Joy Jeffries, Boston, *Librarian.*

Worcester.—Dr. Henry Clarke, Worcester, *President;* Dr. F. D. Brown, Webster, *Vice-President;* Dr. W. H. Workman, Worcester, *Secretary;* Dr. John G. Park, Worcester, *Treasurer;* Dr. Lewis S. Dixon, Worcester, *Librarian.*

Worcester North.—Dr. George Jewett, Fitchburg, *President;* Dr. George D. Colony, Fitchburg, *Vice-President;* Dr. F. W. Russell, Winchendon, *Secretary;* Dr. Alfred Miller, Fitchburg, *Treasurer;* Dr. Alfred O. Hitchcock, Fitchburg, *Librarian.*

APPENDIX TO CATALOGUE OF 1875.

List of Fellows admitted since June 13, 1876.

1877.	Abbott, John Hammill,	Fall River.
1876.	Bartlett, Benjamin Webber,	Rowley.
1877.	Bielby, Porteus Posket,	Salem.
1877.	Burton, Henry Wingfield,	Brighton.
1877.	Clift, Joseph Wales,	Harwich Port.
1877.	Colton, John Jay,	Lowell.
1877.	Cooper, Charles Wendell,	Boston.
1876.	Craigue, Isaac,	Lawrence.
1877.	Cunningham, Thomas Edward,	Cambridgeport.
1877.	Cutter, John Clarence,	Boston.
1876.	Day, John Davis,	Great Barrington.
1877.	Dodge, Edgar Simon,	Rainsford Island.
1877.	Dunbar, Henry Orin,	Athol.
1877.	Foley, John Bernard,	Boston.
1877.	French, Justus Crosby,	Dedham.
1877.	Heed, Harmon,	Pelham.
1877.	Howard, Eugene,	Newburyport.
1876.	Hunking, Charles Dustin,	Haverhill.
1876.	Huntress, Leonard, Jr.,	Lowell.
1877.	Huntington, Abel,	Boston.
1877.	Jackson, John Henry,	Fall River.
1877.	Jordan, Reuben Brackett,	Swampscott.
1877.	Kendrick, Ford,	West Warren.
1877.	Kennealy, John Henry,	South Boston.
1877.	Lewis, Charles Ward,	Boston.
1876.	Loring, Robert Pearmain,	Newton Centre.
1876.	Lussier, Jules Guernon,	North Adams.
1876.	Marion, Otis Henry,	Brighton.
1876.	Marston, Enoch Quimby,	Tewksbury.
1877.	Miller, Ernest Parker,	Fitchburg.
1876.	Oviatt, George Alexander, Jr.,	South Sudbury.
1877.	Parks, Edward Luther,	Boston.
1877.	Parsons, Charles Wesley,	Worthington.
1877.	Patterson, David Nelson,	Lowell.
1876.	Putney, George Ellis,	Boston.
1877.	Read, George Mumford,	South Deerfield.
1876	Reed, Thomas Greenhalgh,	South Boston.
1876.	Robertson, William Duncan,	Boston.
1876.	Sanborn, Edwin Aaron,	East Somerville.
1876.	Sanborn, Wilbur Fiske,	East Somerville.
1877.	Seymour, James Dwight,	Worthington.
1876.	Sheldon, Chauncey Coolidge,	Boston.

1876.	Spaulding, Charles Parker,	Lowell.
1877.	Stahl, Albert Thomas,	Leominster.
1877.	Stockman, Charles Wesley,	Miller's Falls.
1876.	Thompson, Andrew Jackson,	Salem.
1877.	Towle, Charles Henry,	Dorchester.
1877.	Townshend, George Drew,	Roxbury.
1877.	Trueworthy, Edwin Weston,	Lowell.
1877.	Webber, Frank Orlando,	Cambridgeport.
1877.	Whittemore, James Henry,	Boston.

List of Deceased Fellows.

Admitted.	Name.	Residence.	Date of Death.	Age.
1833	*Andral, Gabriel	Paris, France	Feb. 13, 1876	78
1846	Bachelder, John	Plymouth	Oct. 28, 1876	58
1820	Bacon, David	Buxton, Me.	1848	74
1844	Ball, Benjamin L.	China	1860	
1842	Bell, Artemas	Feeding Hills	Mh. 18, 1877	61
1858	Bement, John W.	Baldwinsville	1875	
1839	Braman, Isaac Gordon	Brighton	July 31, 1876	63
1822	Brewster, Royal	Buxton, Me.	1835	64
1876	Bridgham, Jairus Greenwood	Woburn	Dec. 8, 1876	21
1839	Briggs, Lemuel Williams	Bristol, R. I.	1850	
1808	Brown, Benjamin	Waldoboro', Me.	1831	75
1876	Brown, John Coffin Jones	Boston	Oct. 3, 1876	24
1844	Buckingham, Charles Edward	Boston	Feb. 19, 1877	55
1854	Burgess, Ebenezer Prince	Dedham	May 13, 1877	50
1813	Buxton, Edmund	Warren, Me	1828	59
1845	Carpenter, Seba	Attleboro'	Mh. 12, 1874	71
1820	Carr, Robert	Hebron, Me.	1852	68
1814	Channing, Walter	Brookline	July 27, 1876	90
1837	Chapin, Alonzo	Winchester	Dec. 24, 1876	72
1804	Clark, Hezekiah	Pompey, N. Y.	1826	69
1876	Craigue, Isaac	Lawrence	Mh. 12, 1877	45
1808	Cushing, Isaiah	Thomaston, Me.	1819	41
1835	Dorrance, Gardner	Attica, N. Y.	1873	74
1820	Emery, Caleb	Elliot, Me.	1831	42
1829	Fearing, Elisha Pope	Nantucket	Je. 25, 1876	91
1868	Fellows, Charles Melroy	Lawrence	Dec. 23, 1876	45
1808	Folsome, Dudley	Gorham, Me.	1836	67
1875	Fox, George Townsend	Boston	Jan'y 1877	29
1852	Freeland, Chester J.	Fitchburg	1860	67
1856	Gage, Daniel Parker	Lowell	Jan. 31, 1877	48
1813	Hall, Abiel	Alfred, Me.	1829	69
1808	Hubbard, John	Redfield, Me.	1838	79
1808	Hyde, John A.	Freeport, Me.	1851	85
1826	Jeffries, John	Boston	July 16, 1876	80
1838	Kinniston, Timothy	E. Haverhill	Dec. 22, 1876	82
1819	Leonard, George	Taunton	1865	82
1862	Livingstone, Alfred	Lowell	Mh. 19, 1877	39
1847	McGowan, Dennis	S. Boston	1853	
1868	Merrill, David	Peacham, Vt.	1871	
1813	Merrill, John	Portland, Me.	1855	73
1808	Mitchell, Ammi R.		1824	62
1875	Moors, Edward Jesse	Lowell	June 6, 1877	28
1842	Morland, William Wallace	Boston	Nov. 25, 1876	58

Admitted.	Name.	Residence.	Date of Death.	Age.
1813	Moulton, Jotham	Bucksport, Me.	1857	86
1830	Osgood, Joseph	Peabody	Sep. 30, 1876	71
1808	Page, Benjamin	Hallowell, Me.	1844	74
1838	Parker, Hiram	Lowell	May 2, 1877	68
1839	Pillsbury, Harlin	Lowell	Apr. 12, 1877	79
1842	Porter, Isaac	Decatur, Wis.	1854	70
1832	Porter, Moses	Waterford, Min.	1876	76
1852	Puffer, Chenery	Shelburne Falls	Mh. 6, 1877	73
1873	Reynolds, William B.	Lynn	Jan. 11, 1877	48
1838	Robinson, Erastus	Northbridge	1854	80
1827	Shaw, Samuel	Plainfield	1870	80
1841	Smith, John	Wales		
	Smith, Moses	Hawley	1849	74
1813	Snell, Issachar	Winthrop, Me.	1847	73
1839	Southworth, Newton	——, Iowa	1865	60
1852	Stearns, Samuel	Greenfield	1867	77
1813	Stockbridge, John	Bath, Me.	1849	69
1852	Stratton, Elijah	Northfield	July 15, 1876	65
1822	Sweet, Moses	Parsonsfield, Me.	1862	72
1822	Tappan, Enoch S.	Augusta, Me.	1847	66
1822	Tewksbury, Jacob	Oxford, Me.	1848	65
1822	Theobold, Philip E.	Wiscasset, Me.	1845	62
1822	Trafton, Charles	S. Berwick, Me.	1855	68
1820	Warren, Joseph	Middlefield		
1849	Webster, Joseph Wilson	Acushnet	July 9, 1876	
1822	Weed, Samuel	Portland, Me.	1857	83
1829	Ware, Jonathan	Milton	June 6, 1877	80
1838	Wheelock, Alb't Thompson	Belfast, Me.	Mh. 5, 1876	62
1867	Whittemore, Thos. Kendall	Grafton	May, 1877	39
1831	Williams, Jacob	Kensington, N.H	1857	70
1858	Windship, George Barker	Boston	Sep. 12, 1876	42

* Honorary.

Massachusetts Medical Society.

PROCEEDINGS OF THE COUNCILLORS.

October 3, 1877.

A Stated Meeting of the Councillors was held in the Rooms of the Society, No. 36 Temple Place, Boston, on Wednesday, October 3, 1877, at 11 o'clock, A.M.

The President, Dr. William Cogswell, in the Chair.

The following Councillors were present:

Barnstable.
Peter Pineo.

Bristol North.
John R. Bronson,
Silas D. Presbrey.

Bristol South.
F. H. Hooper,
E. T. Learned.

Essex North.
John Crowell,
W. D. Lamb,
Charles P. Morrill.

Essex South.
J. S. Emerson,
Edward Newhall,
G. A. Priest,
O. B. Shreve.

Middlesex East.
S. W. Abbott,
John M. Harlow,
Frederic Winsor.

Middlesex North.
Charles Dutton,
George E. Pinkham.

Middlesex South.
Horace Chapin,
Edward J. Forster,
A. Hosmer,
H. E. Marion,
C. B. Shute,
J. B. Taylor,
Charles E. Vaughan,
Henry P. Walcott,
W. W. Wellington.

Norfolk.
George J. Arnold,
Benj. E. Cotting,
P. O'M. Edson,
David S. Fogg,
F. F. Forsaith,
J. G. S. Hitchcock,
James Morison,
Joel Seaverns,
Joseph Stedman,
J. H. Streeter.

Plymouth.
N. P. Brownell,

Suffolk.
S. L. Abbot,
James Ayer,
H. H. A. Beach,
H. I. Bowditch,
B. Brown,
D. W. Cheever,
F. W. Draper,
Calvin Ellis,
G. H. Gay,
S. A. Green,
A. B. Hall,
D. H. Hayden,
R. M. Hodges,
C. D. Homans,

Wm. Ingalls,
J. B. S. Jackson,
J. F. Jarvis,
B. J. Jeffries,
G. H. Lyman,
Francis Minot,
A. D. Sinclair,
D. H. Storer,
C. W. Swan.

Worcester.
Henry Clarke.

Worcester North.
Caleb C. Field,
Benj. H. Hartwell,
George Jewett,
Ira Russell.

Total, 65.

The Secretary's record of the previous meeting was read and accepted.

The President nominated the following Delegates to attend the meetings of other State Medical Societies, and the nominations were confirmed:

To the Vermont Medical Society—Drs. W. J. Sawin of Chicopee Falls, F. Winsor of Winchester, C. P. Kemp of Springfield.

To the New York Medical Society—Drs. S. A. Fisk of Northampton, W. D. Lamb of Lawrence, J. C. How of Haverhill.

The Committee on Membership reported through Dr. Ayer, and in accordance with its recommendation the following Fellow was allowed to resign:

Dr. G. A. Monroe, of Providence, R. I.

On recommendation of the same Committee the following were allowed to retire:

Drs. Morrill Wyman, of Cambridge.
Francis Thomas, of Scituate Harbor.
Joseph S. Jones, of Boston.

The Committee on Publications recommended through Dr. Cotting the passage of the following:

Voted,—That the Committee on Publications be authorized to offer this year, and annually hereafter, the sum of two hundred (200) dollars, to be awarded as a *prize*, or honorarium, to the Fellow of the Society who shall give, to the satisfaction of said Committee, on or before the 15th of April of any year, in an *Essay*, or Report (worthy of a prize), the best and fullest evidence of any original or meritorious *professional work*, done by himself, during the two years next preceding that date, either in Experimental Investigations, Scientific Researches, or Clinical Observations.

Provided always, that the aforesaid Committee shall in every case, before offering said prize, first ascertain from the Treasurer, in writing, that there are unappropriated funds sufficient therefor in the Treasury.

After some discussion the proposition of the Committee on Publications was adopted.

The Committee on By-Laws, through Dr. Hosmer, offered the following for the adoption of the Councillors:

Voted,—That it is not legal for a District Society to recognize and adopt, as a part of its By-Laws or otherwise, any other Code of Medical Ethics than that of the Massachusetts Medical Society.

After some discussion the resolution was adopted.

Voted,—That Dr. F. E. Porter be re-admitted to Fellowship in the Massachusetts Medical Society.

At 12.15 P.M., the Councillors

Adjourned.

FRANCIS W. GOSS,
Recording Secretary.

FEBRUARY 6, 1878.

A STATED MEETING of the Councillors was held in the Rooms of the Society, No. 36 Temple Place, Boston, on Wednesday, February 6, 1878, at 11 o'clock, A.M.

The President, Dr. WILLIAM COGSWELL, in the Chair.

The following Councillors were present:

Barnstable.	*Bristol North.*	W. W. Comstock,
Peter Pineo.	John R. Bronson,	F. H. Hooper,
	Silas D. Presbrey.	C. L. Swasey.
Berkshire.		
Clarkson T. Collins.	*Bristol South.*	*Essex North.*
	George Atwood,	John Crowell,

W. D. Lamb,
S. K. Towle.

Essex South.
O. B. Shreve.

Middlesex East.
S. W. Abbott,
Frederic Winsor.

Middlesex North.
Cyrus M. Fisk,
Gilman Kimball,
Charles A. Savory,
Joel Spaulding.

Middlesex South.
B. F. D. Adams,
Horace Chapin,
Edward J. Forster,
A. Hosmer,
H. E. Marion,
C. B. Shute,
Henry P. Walcott,
G. A. Warren,
W. W. Wellington.

Norfolk.
George J. Arnold,
Benj. E. Cotting,
David S. Fogg,
F. F. Forsaith,
J. G. S. Hitchcock,
James Morison,
Joel Seaverns,
C. E. Stedman,
Joseph Stedman,
J. H. Streeter.

Plymouth.
N. P. Brownell,
W. R. Howes,
Asa Millet.

Suffolk.
James Ayer,
H. H. A. Beach,
H. I. Bowditch,
B. Brown,
Samuel Cabot,
D. W. Cheever,
Hall Curtis,
F. W. Draper,
Calvin Ellis,
S. A. Green,
F. B. Greenough,
A. B. Hall,
D. H. Hayden,
R. M. Hodges,
C. D. Homans,
John Homans,
B. J. Jeffries,
G. H. Lyman,
Francis Minot,
W. L. Richardson,
G. C. Shattuck,
A. D. Sinclair,
O. F. Wadsworth,
C. E. Ware,
J. C. Warren,
H. W. Williams.

Worcester.
Henry Clarke,
Warren Tyler.

Worcester North.
Benj. H. Hartwell,
George Jewett,
Ira Russell.

Total, 71.

The Secretary's record of the previous meeting was read and accepted.

The President nominated the following Delegates to attend the meetings of other State Medical Societies, and the nominations were confirmed.

Maine—Drs. R. Amory of Brookline, J. G. Pinkham of Lynn.

New Hampshire—Drs. G. Jewett of Fitchburg, J. H. Mackie of New Bedford, G. D. Colony of Fitchburg.

Rhode Island—Drs. J. P. Maynard of Dedham, R. T. Davis of Fall River.

Connecticut—Drs. C. C. Field of Leominster, J. R. Bronson of Attleboro'.

New Jersey—Drs. F. H. Brown of Boston, S. W. Torrey of Beverly.

The following Committees were appointed:

To audit the Treasurer's Accounts—Drs. O. F. Wadsworth, C. E. Vaughan.

To examine the Library and Cabinet—Drs. F. Winsor, H. E. Marion.

To examine the By-Laws of District Societies—Drs. A. Hosmer, A. Millet, S. D. Presbrey.

Dr. Ayer reported for the Committee on Membership and Resignations, and recommended that the following be allowed to resign:

Drs. Moses Parker, of Groveland.
Frederick A. Warner, of Lowell.
Henry Shaw, of Bedford.

Also, that the following be allowed to retire:

Dr. Erasmus D. Hamilton, of Conway.

Also, that the following be dropped, for five years' delinquency in assessments:

Drs. Ellery C. Clarke, of Westfield.
Isaac Fairchild, of Fairhaven.

Also, that the following having removed from the State, and having surrendered their membership under the action of By-Law VI., be dropped from the Roll of Fellows:

Drs. Albert Carroll, of Exeter, N. H.
Ahira B. Hoyt, of Grafton, N. H.
Antoine Ruppaner, of New York City.
Gustavus L. Simmons, of Sacramento, Cal.
John H. Buchmore, of Chicago, Ill.
Daniel A. Cleaveland, of Middletown, Conn.
Joseph E. Gendron, of Providence, R. I.
William J. Morton.
Francis Atwood, of St. Paul, Minn.
James J. McDonald, of San Francisco, Cal.
Thomas Henderson.
Josiah Abbott, of Rindge, N. H.
Herbert Warren.
George W. Grover, of Hannibal, Mo.
Henry N. Brown.

Henry O. Stone, of Concord, N. H.
Charles F. Starkweather.
Charles T. Trafton.
Alexander D. W. Martin.
Saxton P. Ward.

The report of the Committee was accepted, and its recommendations were adopted.

In accordance with the recommendations of Committees appointed at previous meetings, it was

Voted,—That the following be re-admitted to membership in the Massachusetts Medical Society :

Drs. James H. Waterman, of Westfield.
Andrew M. Smith, of Williamstown.

A communication was read from the Berkshire District Medical Society, requesting the Councillors to reconsider the vote passed at their last meeting, in which it was declared to be illegal for a District Society to recognize and adopt, as a part of its By-Laws or otherwise, any other Code of Medical Ethics than that of the Massachusetts Medical Society—or to adopt a definite Code of Ethics for the Society.

Voted,—That the Chair appoint a Committee of three to take into consideration the above-named request, to draft a Code of Ethics, if it shall seem advisable so to do, and to report to the Councillors at their next meeting.

The President appointed Drs. B. E. Cotting, L. S. Fox and J. F. A. Adams to constitute the Committee.

On motion of Dr. Bowditch, it was

Voted,—That the District Societies at their next Annual Meetings be requested to choose Delegates to the American Medical Association.

On motion of Dr. Bronson, it was

Voted,—That the President of the Society be allowed mileage in his official visits to the District Societies.

Dr. H. Holmes read a report of his visit as Delegate to the Maine Medical Association in June last, and Drs. Lamb, Collins and Russell gave verbal accounts of their visits as Delegates to the New York Medical Society.

At 12.20 P.M., the Councillors

Adjourned.

FRANCIS W. GOSS,
Recording Secretary.

Annual Meeting.

The Annual Meeting of the Councillors was held in the Rooms of the Society, No. 36 Temple Place, Boston, on Wednesday, June 11, 1878, at 7 o'clock, P.M.

The President, Dr. William Cogswell, in the Chair.

The following Councillors were present:

Barnstable.
S. H. Gould,
C. M. Hulburt,
W. J. Nickerson,
Peter Pineo.

Berkshire.
J. F. A. Adams,
O. J. Brown,
Clarkson T. Collins,
H. L. Sabin.

Bristol North.
Charles Howe,
Joseph Murphy,
Silas D. Presbrey.

Bristol South.
W. W. Comstock,
R. T. Davis,
J. H. Mackie,
C. L. Swasey.

Essex North.
C. G. Carlton,
W. Cogswell,
J. C. How,
W. D. Lamb.

Essex South.
J. S. Emerson,
William Mack,
Edward Newhall,
G. S. Osborne,
J. G. Pinkham,
J. L. Robinson.

Franklin.
E. A. Deane.

Hampden.
H. C. Belden,
T. L. Chapman.

Hampshire.
S. A. Fisk.

Middlesex East.
W. S. Brown.

Middlesex North.
Charles Dutton,
L. S. Fox,
Charles A. Savory.

Middlesex South.
B. F. D. Adams,
R. A. Blood,
Horace Chapin,
E. R. Cogswell,
J. G. Dearborn,
J. C. Dorr,
R. L. Hodgdon,
C. B. Shute,
G. J. Townsend,
P. Wadsworth,
G. A. Warren,
W. W. Wellington,
Morrill Wyman.

Norfolk.
A. D. Bacon,
W. P. Bolles,
Robert T. Edes,
G. W. Fay,
A. R. Holmes,
James Morison,
A. H. Nichols,
Joel Seaverns,
C. E. Stedman,
S. E. Stone,
J. H. Streeter.

Plymouth.
Asa Millet,
W. Richards.

Suffolk.
S. L. Abbot,
H. J. Bigelow,
H. I. Bowditch,
B. Brown,
Samuel Cabot,
D. W. Cheever,
P. M. Crane,
F. W. Draper,
R. H. Fitz,
J. O. Green,
S. A. Green,
F. B. Greenough,
A. B. Hall,
D. H. Hayden,
R. M. Hodges,
C. D. Homans,
John Homans,
Wm. Ingalls,
J. B. S. Jackson,
J. F. Jarvis,
B. J. Jeffries,
G. H. Lyman,
Francis Minot,
F. E. Oliver,
J. P. Reynolds,
W. L. Richardson,
G. C. Shattuck,
A. D. Sinclair,
C. W. Swan,
O. F. Wadsworth,
C. E. Ware,
J. C. Warren,
W. G. Wheeler,
J. C. White,
H. W. Williams.

Worcester.
Henry Clarke,
G. E. Francis,
Thomas H. Gage,
W. H. Lincoln,
Oramel Martin,
A. M. Orcott,
W. Peirce,
J. M. Rice.

Worcester North.
George Jewett,
Ira Russell.

Total, 104.

The Secretary's record of the previous meeting was read and accepted.

The names of the Nominating Committee as chosen by the District Societies were read.

The Committee was composed as follows:

Drs.	Peter Pineo	Barnstable.
	O. J. Brown	Berkshire.
	C. Howe	Bristol North.
	F. H. Hooper	Bristol South.
	C. G. Carlton	Essex North.
	E. Newhall	Essex South.
	F. J. Canedy	Franklin.
	T. L. Chapman	Hampden.
	S. A. Fisk	Hampshire.
	C. A. Savory	Middlesex North.
	Morrill Wyman	Middlesex South.
	F. Winsor	Middlesex East.
	C. E. Stedman	Norfolk.
	A. Millet	Plymouth.

G. C. Shattuck . . . Suffolk.
O. Martin . . . Worcester.
G. Jewett . . . . Worcester North.

The member from Bristol South being absent, Dr. C. L. Swasey was substituted as its representative.

The Secretary read the names of sixty-three new and of thirty-five deceased Fellows.

The Treasurer, Dr. Draper, read his annual report.

The Auditing Committee reported through Dr. Wadsworth that the accounts were correctly cast and properly vouched.

The Treasurer's report was then accepted.

The Committee on Finances reported through Dr. Lyman, that there had been an excess of receipts over expenditures of $2,216.66. The Committee recommended a dividend of 75 per cent. of this surplus to be made to the District Societies.

The report of the Committee was accepted, and its recommendations were adopted.

The Committee on Membership and Resignation reported through Dr. Minot, and recommended that the following Fellows be allowed to resign:

Drs. Edward R. Campbell, of Bellows Falls, Vt.
John T. Carter, of Triadelphia, West Va.
Mark Ranney, of Mount Pleasant, Iowa.

Also, that the following be allowed to retire:

Drs. Edward Barton, of Orange.
Charles T. Jackson, of Somerville.
George W. Warren, of West Boylston.

Also, that the following, who have surrendered their Fellowship under By-Law VI., by removal from the State, be dropped from the roll:

Drs. J. G. Maxfield, of Ruby, Mich.
W. H. French, of Nordhoff, Cal.
J. M. Hall, of Chicago, Ill.
J. P. Prince, of New York City.
J. F. Appell, of Lakeville, Fla.
C. K. Kelley, of Milford, N. H.
Edwin Field, of Redbank, N. J.
C. L. Pierce, of Oakland, Cal.
P. A. Lovering.
W. E. Moseley, of Baltimore, Md.
H. M. Rackliffe, of Nashua, N. H.
M. E. Jones, of Lincoln, Nebraska.
R. W. Sprague, of San Francisco, Cal.
W. Heron, of Altamonte, Fla.
G. A. Pierce, of Lebanon Springs, N. Y.
T. T. Graves, of West Killingly, Conn.
G. L. Brown, of Buffalo, N. Y.

The report of the Committee was accepted, and its recommendations were adopted.

The Librarian, Dr. Hayden, presented his report, together with that of the Committee on the Library.

The Committee on Publications reported through Dr. Shattuck. The report referred to the success which had attended the offer of the Society's Prize, which the Councillors at their meeting in October, 1877, authorized the Committee to make. It further stated that the dissertation to which the prize had been awarded, together with its author's name, would be presented to the Society at its annual meeting to-morrow.

The Committee on Nominations reported a list of candidates for officers of the Society for the ensuing year, and the same were duly elected by ballot:

President	Dr. George H. Lyman.
Vice-President	Dr. David P. Smith.
Treasurer	Dr. F. W. Draper.
Corresponding Secretary	Dr. C. W. Swan.
Recording Secretary	Dr. F. W. Goss.
Librarian	Dr. D. H. Hayden.

Viva voce, Dr. GEORGE W. GARLAND, of Lawrence, was chosen Orator, and

Dr. C. C. HOLMES, of Milton, Anniversary Chairman for the next Annual Meeting.

Voted,—That the next ***Annual Meeting*** be held in Boston, on ***the second Wednesday in June, 1879.***

On nomination by the President, the following Standing Committees were appointed:

Of Arrangements.

R. Amory, J. Collins Warren, J. O. Green,
C. J. Blake, W. L. Richardson, A. L. Mason.

On Publications.

G. C. Shattuck, R. M. Hodges, B. E. Cotting.

On Membership and Resignations.

J. Ayer, F. Minot, J. C. White.

On Finances.

C. D. Homans, W. W. Wellington, G. J. Arnold.

To Procure Scientific Papers.

H. W. Williams, Calvin Ellis, F. K. Paddock.
G. S. Stebbins, E. Wigglesworth.

On Ethics and Discipline.

D. W. Cheever, R. L. Hodgdon, G. J. Townsend,
G. E. Francis, A. H. Johnson.

A request from Dr. Walter Channing, of Danvers, to be restored to Fellowship was granted.

In accordance with a communication from the Suffolk District Medical Society, that the Councillors "be requested to appoint a Committee to report to the Society on the questions of importance which will arise in connection with the proposed revision of the Pharmacopœia," it was

Voted,—That Drs. R. Amory, R. T. Edes and E. S. Wood, be a Committee to carry out the provisions of the above request.

A petition from the Worcester North District Medical Society that the town of Ayer be assigned to that District, was referred to the Presidents of the Middlesex South, Middlesex North and Worcester North District Societies to act as a Committee thereon, to report at the next Councillors' meeting.

Dr. Cotting, in behalf of the Committee appointed at the last meeting to draft a Code of Ethics for the Society, presented a report embodying such a Code. After a prolonged discussion, in which various sections of the proposed Code were criticized and objected to, on motion of Dr. Lyman, it was

Voted,—That the whole matter of the Code of Ethics be referred back to the same Committee, to report to the Councillors at their meeting in February next.

On motion of Dr. Pineo, it was

Voted,—That two be added to the above Committee.

In accordance with this vote, Drs. J. P. Reynolds and H. J. Bigelow were added to the Committee.

Dr. B. F. D. Adams, in accordance with instructions from the Middlesex South District Medical Society, presented resolutions from that Society that in the opinion of its members "the time has come when women should have the privilege of examination by any Board of Censors acting for the Massachusetts Medical Society," and, also, that it was the desire of that District Society "that well-qualified female practitioners shall, after examination, be admitted to the Massachusetts Medical Society."

On motion of Dr. Hodgdon, it was

Voted,—That a Committee of five Councillors be appointed to take the above petition into consideration, and to report at a future meeting of the Councillors.

The following were appointed to constitute the Committee :—Drs. R. L. Hodgdon, H. W. Williams, A. Hosmer, G. E. Francis, J. H. Mackie.

The President introduced the President-elect, Dr. Lyman, who responded briefly.

At 9.40 P.M., the Councillors

Adjourned.

FRANCIS W. GOSS,
Recording Secretary.

Massachusetts Medical Society.

PROCEEDINGS OF THE SOCIETY.

ADJOURNED MEETING.

October 3, 1877.

The Society met, pursuant to adjournment, at half-past 2 o'clock, P.M., on Wednesday, October 3, 1877, at the Rooms, No. 36 Temple Place, Boston.

The President, Dr. William Cogswell, in the Chair.

Voted,—That the Society concur with the Councillors in adopting the following amendment to By-Law XXXI.:

In line 24 omit the word "passage" and substitute the words "confirmation by the Society."

Adjourned.

FRANCIS W. GOSS,
Recording Secretary.

ANNUAL MEETING.

First Day.

The Society met in the hall of the Lowell Institute, Boston, on Tuesday, June 11, 1878, at 12 o'clock, M.

The President, Dr. William Cogswell, in the Chair.

The reading of papers was begun as follows:

I.—*Anomalies in Pregnancy.* By JOHN CROWELL, M.D., of Haverhill.

II.—*Floating Spleens.* By FREDERICK C. SHATTUCK, M.D., of Boston.

III.—*Absence of Resonance in Fifth Right Intercostal Space, diagnostic of Pericardial Effusion. Erroneous Ideas as to the Form of its Area of Dulness.* By THOMAS M. ROTCH, M.D., of Boston.

At 2 o'clock, P.M., the Society adjourned till 3 o'clock, when the following papers were read by members of the Massachusetts Medico-Legal Society, Dr. Alfred Hosmer, by invitation of the President, presiding:

IV.—*Address of the President of the Mass. Medico-Legal Society.* Medical Examiner ALFRED HOSMER, M.D., of Watertown.

V.—*A Digest of Returns from Members of the Society.* By the Corresponding Secretary, Medical Examiner FREDERICK WINSOR, M.D., of Winchester.

VI.—*Concerning Coroners, and the Theory and Practice of Inquests.* By THEODORE H. TYNDALE, Esq., of Boston.

VII.—*Value of Anatomical Evidence.* By REGINALD H. FITZ, M.D., of Boston.

VIII.—*The Relation which Chemistry bears to Forensic Medicine.* By EDWARD S. WOOD, M.D., of Cambridge.

IX.—*Cases illustrating the Work and Duties of the Medical Examiner.* By Medical Examiner FRANK W. DRAPER, M.D., of Boston.

X.—*A Case of Arsenical Poisoning, with fatty degeneration of the Liver, Kidneys, etc.* By Medical Examiner Joseph G. Pinkham, M.D., of Lynn.

At 6 o'clock, P.M., the Society adjourned.

FRANCIS W. GOSS,
Recording Secretary.

Second Day.

The Society met in the hall of the Lowell Institute, Boston, on Wednesday, June 12, 1878, at 9 o'clock, A.M.

The President, Dr. William Cogswell, in the Chair.

The records of the last Annual Meeting and of a subsequent adjourned meeting were read and accepted.

The Secretary read the names of Fellows admitted since the last Annual Meeting, and of Fellows whose deaths had been reported.

Fellows admitted since June 12, 1877.

1877	Bancroft, Charles Parker	Boston.
1877	Bancroft, Winifred Baxter	Boston.
1878	Barrett, George Dallas	East Somerville.
1878	Benoit, Benjamin, Jr.	Lowell.
1878	Bixby, Josiah Peet	West Warren.
1877	Booth, Edward Chauncey	Boston.
1877	Bowen, Charles Wesley	Granville Corners.
1878	Bradford, Henry Withington	Boston.
1877	Brannan, John Winters	Boston.
1877	Clark, Charles Edward	Boston.
1878	Copeland, Horatio Franklin	South Abington.
1878	Daniels, Edward Alfred	Medway.
1877	Davenport, Francis Henry	Boston.
1877	Elliot, John Wheelock	Boston.
1877	Fitch, Charles Wellington	San Francisco, Cal.
1877	Foster, Charles	Tewksbury.
1878	Foye, Charles Frederick	Haverhill.

1877	French, Samuel William	Boston.
1877	Gannett, William Whitworth	Boston.
1878	Ginn, David Richard	Dennis Port.
1877	Green, Charles Montraville	Boston.
1877	Gunter, Adolphus Birum	Charlestown.
1877	Hall, Harry Porter	Leominster.
1878	Hamilton, Albinus Otis	Cliftondale.
1878	Harriman, James Lang	Hudson.
1878	Hill, Oscar Dwight	Plymouth.
1877	Howard, Arthur Chadwick	Boston.
1878	Hunt, William Otis	Waltham.
1877	Kilby, Henry Sherman	Boston.
1877	Knickerbocker, George Sharpe	Stockbridge.
1878	Knight, Henry Sargent	Worcester.
1877	Leland, George Adams	Boston.
1877	Mason, William Castein	Boston.
1877	McCarthy, Michael	Watertown.
1877	Minot, James Jackson	Boston.
1878	Moore, Frederick Fisk	Allston.
1878	Morong, Arthur Bennett	Boston.
1878	Morse, Henry Lee	Boston.
1877	Moseley, William Oxnard	Boston.
1877	Noyes, Rufus King	Lynn.
1877	Osgood, Hamilton	Boston.
1878	O'Sullivan, Thomas Jefferson	Worcester.
1877	Peters, Edward Dyer, Jr.	Dorchester.
1878	Pickard, Daniel	Northampton.
1877	Putnam, Joseph Morrill	Chelsea.
1878	Read, Robert McLellan	Boston.
1878	Rice, Frederick Eugene	Springfield.
1877	Rich, Joshua Bartlett	Worcester.
1877	Shaw, Thomas Pierpont	Lowell.
1878	Sibley, Hartwell Augustus	Lowell.
1877	Souther, William Towle	Worcester.
1877	Swift, John Barker	South Boston.
1878	Taylor, William Howland	New Bedford.
1878	Thayer, Daniel Ellsworth	Cheshire.
1878	Towle, Benjamin Newell	Charlestown.
1877	Towne, Solon Rodney	Enfield.
1878	Vinal, Frank Thomas	Scituate.
1878	Wells, Frank	Boston.
1878	Wheeler, Orswell Asher	Bernardston.
1877	Whittemore, Fred Webster	Cambridgeport.
1877	Williams, Francis Henry	Boston.
1878	Wood, George William	Northampton.
1877	Woodward, Samuel Bayard	Boston.

Total, 63.

List of Deceased Fellows.

Admitted.	Name.	Residence.	Date of Death.	Age.
1864	Bachelder, Samuel Fogg	South Boston	Jan. 1, 1878	48
1833	Bartlett, John Call	Chelmsford	Jan. 13, 1878	69
1823	Bartlett, Josiah	Concord	Jan. 5, 1878	81
1852	Bell, William Orton	Westfield	Nov. 14, 1877	56
1853	Bickford, Hezekiah Cook	Woburn	Mch. 26, 1878	60
1860	Bryant, Albert Henry	Natick	June 26, 1877	40
1848	Carpenter, Benoni	Pawtucket, R. I.	Nov. 22, 1877	72
1847	Clarke, Edward Hammond	Boston	Nov. 30, 1877	57
1872	Emery, Erastus	Truro	Jan. 16, 1878	31
1855	Fiske, Daniel Shaw	Brookfield	Apr. 29, 1878	57
1841	Gordon, Timothy	Plymouth	Nov. 5, 1877	82
1820	Grosvenor, David Augustus	North Reading	Mch. 12, 1876	91
1837	Haskell, Benjamin	Rockport	Jan. 21, 1878	63
1861	Herrick, George H. Webster	Charlestown	July 21, 1877	38
1866	Ingalls, Richard Mayberry	East Boston	Nov. 11, 1877	38
1840	Johnson, Henry Flavel	Cambridge	July 20, 1877	64
1843	Jones, Joseph Stevens	Boston	Dec. 29, 1877	68
1835	Knight, Nathaniel Jordan	East Somerville	Oct. 18, 1877	75
1851	Miller, Alfred	Fitchburg	Nov. 15, 1877	62
1868	Miller, Charles Nathaniel	Boston	May 16, 1878	34
1854	Morris, William Bowen	Charlestown	Mch. 16, 1878	52
1857	Nihill, John L	South Boston	May 22, 1878	52
1832	Palmer, Ezra	Boston	May 23, 1878	69
1862	Pratt, Henry	Lanesborough	Nov. 9, 1877	57
1839	Richardson, Aaron Parker	Boston	July 30, 1877	66
1860	Ryan, John	Boston	Feb. 4, 1878	43
1866	Sawin, William Jackson	Chicopee Falls	Dec. 3, 1877	44
1836	*Smith, Nathan Ryno	Baltimore, Md.	July 3, 1877	80
1824	Spooner, John Phillips	Dorchester	May 3, 1878	81
1854	Swift, Alfred	South Dennis	July 27, 1875	78
1833	Thomas, Francis	Scituate Harbor	Mch. 15, 1878	74
1838	Tucker, Simeon	Stoughton	Feb. 9, 1878	78
1860	Tyler, John Eugene	Boston	Mch. 9, 1878	58
1832	Warren, Edward	Boston	May 21, 1878	73
1837	Young, Richard Sharpe	S. Francisco, Cal.	Aug. 8, 1877	64

* Honorary. Total, 35

The Treasurer, Dr. Draper, read his annual report.

Dr. C. J. Blake presented a request from the State Board of Education, for the purpose of securing the aid of Fellows of the Society in the preparation of statistics regarding deaf mutes.

Papers were read as follows:

XI.—*Case of Strangulated Hernia, with Remarks.* By Cyrus N. Chamberlain, M.D., of Lawrence.

XII.—*Early Symptoms in Hip Disease.* By EDWARD H. BRADFORD, M.D., of Boston.

XIII.—*Filth and Typhoid Fever.* By SAMUEL W. FLETCHER, M.D., of Pepperell.

XIV.—*The Metric System in Medicine.* By EDWARD WIGGLESWORTH, M.D., of Boston.

Dr. Chadwick made a brief statement concerning the Boston Medical Library.

The following Delegates from other State Medical Societies were introduced by the President:

New Hampshire Medical Society.—Drs. C. C. Odlin, F. W. Graves.

Rhode Island Medical Society.—Drs. Sylvanus Clapp, A. Ballou.

Connecticut Medical Society.—Dr. J. E. Barbour.

Drs. Odlin, Clapp and Barbour made brief addresses, presenting the greeting of their Societies.

Dr. Spofford, of Groveland, a Fellow of the Society, was introduced by the President. Dr. Spofford stated that he completed his 90th year last December. He was licensed to practise medicine in 1813, and became a Fellow in 1817.

Dr. Shattuck, for the Committee on Publications, reported regarding the Society's Prize. He stated that the prize had been awarded to the author of the essay entitled, "The Identification of the Human Skeleton—A Medico-Legal Study." The opening of the envelope accompanying the essay revealed its author to be Dr. Thomas Dwight, of Boston.

At 12 o'clock the Annual Discourse was delivered by Dr. FRANCIS MINOT, of Boston.

At the close of the address the Society presented a vote of thanks to the orator for his very interesting, able and instructive address.

The President introduced the President-elect, Dr. G. H. Lyman, of Boston, who responded briefly.

At 1 o'clock, P.M., the Society adjourned to the Music Hall, where dinner was served to nearly six hundred Fellows.

FRANCIS W. GOSS,
Recording Secretary.

TREASURER'S REPORT, 1878.

THE Treasurer begs leave to report that he has received for the Society, during the year ending May 31, 1878, $9,014.17; that he has paid $6,797.51; and that the balance for the new year's account is $2,216.66.

The items of receipt and expenditure are presented in the accompanying analysis account.

The Society's funded property remains as at the last annual meeting; it is disposed as follows:

Shattuck Fund . .	$9,166.87
Phillips Fund . .	10,000.00
General Fund . .	11,254.30
Cotting Fund . .	1,000.00
	$31,421.17

Respectfully submitted,

F. W. DRAPER,
Treasurer.

Dr. F. W. Draper, Treasurer, in Account with Massachusetts Medical Society. Cr.

Balance from last account,		$2123 77
Assessments paid to the Treasurer		1030 00
Assessments received from District Treasurers:		
Berkshire,	$175 00	
Bristol North,	125 00	
Bristol South,	290 00	
Essex North,	80 00	
Essex South,	165 00	
Franklin,	75 00	
Hampden,	185 00	
Hampshire,	145 00	
Middlesex East,	165 00	
Middlesex North,	25 00	
Middlesex South,	345 00	
Norfolk,	355 00	
Plymouth,	160 00	
Suffolk,	1460 00	
Worcester,	610 00	
Worcester North,	100 00	4460 00
Interest account:—		
General Fund,	$562 33	
Shattuck Fund,	255 88	
Phillips Fund,	512 19	
Cotting Fund,	55 00	1385 40
Diplomas,		10 00
Censor's fine for non-attendance,		5 00
		$9014 17

District Treasurers' Commissions and Expenses,		$306 77
Censors' Fees,		195 00
Dividend to District Societies:		
Barnstable,	$22 00	
Berkshire,	52 00	
Bristol North,	36 00	
Bristol South,	60 00	
Essex North,	64 00	
Essex South,	104 00	
Franklin,	20 00	
Hampden,	52 00	
Hampshire,	56 00	
Middlesex North,	78 00	
Middlesex South,	186 00	
Middlesex East,	40 00	
Norfolk,	166 00	
Plymouth,	46 00	
Suffolk,	430 00	
Worcester,	112 00	
Worcester North,	32 00	1566 00
Publications, Printing and Postage,		2262 01
Rent,		100 00
Expenses of Annual Meeting, 1877:		
Dinner,	1315 00	
Hall,	204 00	
Music,	15 00	
Incidentals,	228 07	1762 07
Councillors' Lunches,		50 00
Incidentals,		155 66
Treasurer's Salary,		400 00
		6797 51
Balance on hand,		2216 66
		$9014 17

Officers of the Massachusetts Medical Society.

1878–79.

Chosen June 11, 1878.

GEORGE H. LYMAN, . . Boston, . President.
DAVID P. SMITH, ... Springfield, Vice-President.
FRANK W. DRAPER, . . Boston, . Treasurer.
CHARLES W. SWAN, . . Boston, . Cor. Secretary.
FRANCIS W. GOSS, . . . Roxbury, . Rec. Secretary.
DAVID H. HAYDEN, . . . Boston, . Librarian.
GEORGE W. GARLAND, Lawrence, Orator.
CHRISTOPHER C. HOLMES, Milton, . Anniv. Chairman.

Standing Committees.

Of Arrangements.

R. Amory, W. L. Richardson,
C. J. Blake, J. O. Green,
J. Collins Warren, A. L. Mason.

On Publications.

G. C. Shattuck, R. M. Hodges, B. E. Cotting.

On Resignations.

J. Ayer, F. Minot, J. C. White.

On Finances.

C. D. Homans, W. W. Wellington, G. J. Arnold.

To Procure Scientific Papers.

H. W. Williams, Calvin Ellis, F. K. Paddock,
G. S. Stebbins, E. Wigglesworth.

On Ethics and Discipline.

D. W. Cheever, R. L. Hodgdon, G. J. Townsend,
G. E. Francis, A. H. Johnson.

Presidents of District Societies—Vice-Presidents (Ex-Officiis).

[Arranged according to Seniority.]

S. H. Gould,
W. H. Kimball,
A. C. Webber,
C. D. Homans,
J. Dwelly,
G. D. Colony,
F. D. Brown,
F. F. Brown,
N. Paige,
A. H. Johnson,
W. W. Leavitt,
R. Amory,
H. W. Dudley,
A. C. Walker,
G. H. Pillsbury,
C. B. Smith,
S. Lawton.

Councillors.

Barnstable.—Drs. S. H. Gould, Brewster; C. M. Hulburt, South Dennis; J. Leonard, Sandwich; W. J. Nickerson, South Yarmouth; Peter Pineo, Hyannis.

Berkshire.—Drs. J. F. A. Adams, Pittsfield; O. J. Brown, North Adams; Clarkson T. Collins, Great Barrington; L. Miller, Stockbridge; C. D. Mills, Pittsfield; H. L. Sabin, Williamstown.

Bristol North.—Drs. John R. Bronson, Attleboro'; Chas. Howe, Joseph Murphy, Silas D. Presbrey, Taunton.

Bristol South.—Drs. W. W. Comstock, Middleboro'; R. T. Davis, Fall River; F. H. Hooper, New Bedford; E. T. Learned, Fall River; J. H. Mackie, C. L. Swasey, New Bedford.

Essex North.—Drs. C. G. Carlton, Lawrence; W. Cogswell, Bradford; J. A. Douglass, Amesbury; J. C. How, Haverhill; E. P. Hurd, Newburyport; W. D. Lamb, Lawrence; R. B. Root, Georgetown; S. K. Towle, Haverhill.

Essex South.—Drs. J. S. Emerson, Lynn; Arthur Kemble, William Mack, Salem; E. Newhall, Lynn; G. S. Osborne, Peabody; J. G. Pinkham, Lynn; G. A. Priest, Manchester; J. L. Robinson, Wenham; O. B. Shreve, Salem.

Franklin.—Drs. F. J. Canedy, Shelburne Falls; E. A. Deane, Montague; J. W. D. Osgood, Greenfield.

HAMPDEN.—Drs. H. C. Belden, W. Springfield; T. L. Chapman, Longmeadow; W. W. Gardner, V. L. Owen, P. LeB. Stickney, Springfield; J. H. Waterman, Westfield.

HAMPSHIRE.—Drs. S. A. Fisk, Northampton; J. R. Greenleaf, Haydenville; C. Seymour, Northampton; C. B. Smith, Granby.

MIDDLESEX EAST.—Drs. W. S. Brown, Stoneham; J. O. Dow, Reading; Frederic Winsor, Winchester.

MIDDLESEX NORTH.—Drs. W. Bass, Lowell; C. Dutton, Tyngsborough; C. M. Fisk, L. S. Fox, W. H. Leighton, Charles A. Savory, Joel Spalding, Lowell.

MIDDLESEX SOUTH.—Drs. B. F. D. Adams, Waltham; R. A. Blood, Charlestown; H. Chapin, Somerville; E. R. Cogswell, Cambridgeport; J. G. Dearborn, Charlestown; J. C. Dorr, Medford; S. Hanscom, East Somerville; J. L. Hildreth, Cambridge; R. L. Hodgdon, Arlington; Otis E. Hunt, Newton; A. C. Livermore, Stowe; H. E. Marion, Brighton; C. B. Shute, Malden; G. J. Townsend, South Natick; P. Wadsworth, Malden; G. A. Warren, Hopkinton; W. W. Wellington, Cambridgeport; E. S. Wood, Morrill Wyman, Cambridge.

NORFOLK.—Drs. A. D. Bacon, Sharon; W. P. Bolles, Dorchester; R. T. Edes, Roxbury; G. W. Fay, East Weymouth; D. S. Fogg, Norwood; D. D. Gilbert, Dorchester; A. R. Holmes, Canton; James Morison, Quincy; A. H. Nichols, Joel Seaverns, Roxbury; C. E. Stedman, Dorchester; J. Stedman, Jamaica Plain; S. E. Stone, Walpole; J. H. Streeter, Roxbury.

PLYMOUTH.—Drs. N. P. Brownell, South Scituate; E. A. Chase, Brockton; J. C. Gleason, East Abington; B. Hubbard, Plymouth; Asa Millet, East Bridgewater; W. Richards, Brockton.

SUFFOLK.—Drs. S. L. Abbot, J. Ayer, H. H. A. Beach, H. J. Bigelow, H. I. Bowditch, B. Brown, S. Cabot, D. W. Cheever, P. M. Crane, Hall Curtis, H. Derby, F. W. Draper, *Treasurer*, C. Ellis, R. H. Fitz, G. H. Gay, J. O. Green, S. A. Green, F. B. Greenough, A. B. Hall, D. H. Hayden, *Librarian*, R. M. Hodges, C. D. Homans, J. Homans, W. Ingalls, J. B. S. Jackson, J. F. Jarvis,

B. J. Jeffries, G. H. Lyman, *President*, F. Minot, F. E. Oliver, J. P. Reynolds, W. L. Richardson, G. C. Shattuck, A. D. Sinclair, D. H. Storer, C. W. Swan, *Corresponding Secretary*, O. F. Wadsworth, C. E. Ware, J. C. Warren, Boston; W. G. Wheeler, Chelsea; J. C. White, H. W. Williams, Boston.

Worcester.—Drs. F. D. Brown, Webster; H. Clarke, G. E. Francis, Thomas H. Gage, Worcester; W. H. Lincoln, Millbury; Oramel Martin, Worcester; A. M. Orcutt, Hardwick; W. Peirce, West Boylston; J. M. Rice, J. Sargent, Worcester; W. Tyler, North Brookfield; C. A. Wilcox, Uxbridge.

Worcester North.—Drs. C. C. Field, Leominster; Benjamin H. Hartwell, Ayer; George Jewett, Fitchburg; Ira Russell, Winchendon.

Censors.

Barnstable.—Drs. T. R. Clement, Centreville; G. W. Doane, Hyannis; B. D. Gifford, Chatham; G. N. Munsell, Harwich; W. N. Stone, Wellfleet.

Berkshire.—Drs. S. P. Dresser, Hinsdale; W. M. Mercer, F. K. Paddock, Abner M. Smith, Pittsfield; D. M. Wilcox, Lee.

Bristol North.—Drs. E. J. Bassett, Taunton; H. C. Bullard, North Attleboro'; George L. Ellis, S. D. Presbrey, N. M. Ransom, Taunton.

Bristol South.—Drs. Henry Johnson, A. M. Pierce, New Bedford; F. A. Sawyer, Wareham; Isaac Smith, J. B. Whitaker, Fall River.

Essex North.—Drs. C. N. Chamberlain, Lawrence; J. C. How, Haverhill; F. A. Howe, Newburyport; C. D. Hunking, Haverhill; O. F. Seavey, Merrimac.

Essex South.—Drs. D. H. Batchelder, Danversport; C. A. Carlton, Salem; C. A. Lovejoy, Lynn; C. C. Pike, Peabody; S. W. Torrey, Beverly.

FRANKLIN.—Drs. E. Barton, South Orange; E. C. Coy, Montague City; A. C. Deane, Greenfield; C. M. Duncan, Shelburne; C. E. Severance, Shelburne Falls.

HAMPDEN.—Drs. L. S. Brooks, S. W. Bowles, G. C. McClean, Springfield; W. J. Norfolk, Westfield; A. F. Reed, Holyoke.

HAMPSHIRE.—Drs. C. M. Barton, Hatfield; O. F. Bigelow, Amherst; F. Bonney, Hadley; C. L. Knowlton, E. B. Nims, Northampton.

MIDDLESEX EAST.—Drs. S. W. Abbott, Wakefield; A. H. Cowdrey, Stoneham; C. Jordan, Wakefield; W. F. Stevens, Jr., Stoneham; D. W. Wight, Winchester.

MIDDLESEX NORTH.—Drs. E. B. Aldrich, A. W. Buttrick, W. M. Hoar, F. Nickerson, J. Smith, Lowell.

MIDDLESEX SOUTH.—Drs. E. W. Emerson, Concord; M. A. Morris, Charlestown; A. L. Norris, East Cambridge; E. H. Stevens, North Cambridge; R. Willis, Somerville.

NORFOLK.—Drs. H. P. Bowditch, Jamaica Plain; J. W. Chase, Dedham; O. F. Rogers, Dorchester; G. K. Sabine, Brookline; E. T. Williams, Roxbury.

PLYMOUTH.—Drs. H. F. Borden, Brockton; J. B. Brewster, Plymouth; F. Collamore, North Pembroke; W. R. Howes, Hanover; F. S. Thomas, Hanson.

SUFFOLK.—Drs. T. Dwight, Allen M. Sumner, George G. Tarbell, Thomas Waterman, Edward N. Whittier, Boston.

WORCESTER.—Drs. G. J. Bull, Worcester; E. B. Harvey, Westboro'; J. W. Hastings, West Warren; Emerson Warner, W. H. Workman, Worcester.

WORCESTER NORTH.—Drs. Josiah M. Blood, Ashby; G. D. Colony, Fitchburg; C. C. Field, G. W. Pierce, Leominster; Edward J. Sawyer, Gardner.

Commissioners of Trials.

Barnstable . .	B. F. Seabury . .	Orleans.
Berkshire . . .	Abner M. Smith .	Pittsfield.
Bristol North .	John R. Bronson .	Attleboro'.
Bristol South .	John Pierce . . .	Edgartown.
Essex North . .	S. K. Towle . . .	Haverhill.
Essex South . .	G. A. Perkins . .	Salem.
Franklin . . .	R. C. Ward . . .	Northfield.
Hampden	C. Bell	Feeding Hills.
Hampshire . . .	G. Cox	S. Hadley Falls.
Middlesex East .	F. Winsor	Winchester.
Middlesex North	N. Allen	Lowell.
Middlesex South	H. O. Marcy . . .	Cambridge.
Norfolk	T. H. Dearing . .	Braintree.
Plymouth . . .	J. S. Hammond . .	Plympton.
Suffolk	Charles W. Swan .	Boston.
Worcester . . .	L. F. Billings . .	Barre.
Worcester North	C. C. Field . . .	Leominster.

Officers of the District Medical Societies.

Barnstable.—Dr. S. H. Gould, Brewster, *President;* Dr. Benjamin D. Gifford, South Chatham, *Vice-President;* Dr. W. J. Nickerson, South Yarmouth, *Secretary;* Dr. Chauncey M. Hulbert, South Dennis, *Treasurer;* Dr. J. M. Smith, Barnstable, *Librarian.*

Berkshire.—Dr. W. W. Leavitt, West Stockbridge, *President;* Dr. H. J. Millard, North Adams, *Vice-President;* Dr. J. F. A. Adams, Pittsfield, *Secretary;* Dr. W. M. Mercer, Pittsfield, *Treasurer;* Dr. S. M. Reynolds, Richmond, *Librarian.*

Bristol North.—Dr. Nomus Paige, Taunton, *President;* Dr. H. C. Bullard, North Attleboro', *Vice-President;* Dr. W. S. Robinson, Taunton, *Secretary;* Dr. C. Howe, Taunton, *Treasurer;* Dr. N. M. Ransom, Taunton, *Librarian.*

Bristol South.—Dr. J. Dwelly, Fall River, *President;* Dr. E. P. Abbé, New Bedford, *Vice-President;* Dr. A. M. Pierce, New Bedford, *Secretary, Treasurer and Librarian.*

Essex North.—Dr. W. H. Kimball, Andover, *President;* Dr. J. Crowell, Haverhill, *Vice-President;* Dr. George W. Snow, Newburyport, *Secretary and Treasurer;* Dr. S. Drinkwater, Haverhill, *Librarian.*

Essex South.—Dr. Amos H. Johnson, Salem, *President;* Dr. J. W. Goodell, Lynn, *Vice-President;* Dr. R. F. Dearborn, Lynn, *Secretary;* Dr. William Mack, Salem, *Treasurer;* Dr. P. P. Bielby, Salem, *Librarian.*

Franklin.—Dr. A. C. Walker, Greenfield, *President;* Dr. C. L. Fisk, Greenfield, *Vice-President;* Dr. C. Bowker, Bernardston, *Secretary, Treasurer and Librarian.*

Hampden.—Dr. S. Lawton, Springfield, *President;* Dr. H. Gamwell, Westfield, *Vice-President;* Dr. Frederic W. Chapin, Springfield, *Secretary, Treasurer and Librarian.*

Hampshire.—Dr. C. B. Smith, Granby, *President;* Dr. J. B. Learned, Florence, *Vice-President;* Dr. H. B. Stoddard, Northampton, *Secretary and Librarian;* Dr. James Dunlap, Northampton, *Treasurer.*

Middlesex East.—Dr. F. F. Brown, Reading, *President;* Dr. D. W. Wight, Winchester, *Vice-President;* Dr. J. R. Barss, Melrose, *Secretary;* Dr. J. O. Dow, Reading, *Treasurer and Librarian.*

Middlesex North.—Dr. G. H. Pillsbury, Lowell, *President;* Dr. G. E. Pinkham, Lowell, *Vice-President;* Dr. George C. Osgood, Lowell, *Secretary;* Dr. Nathan B. Edwards, North Chelmsford, *Treasurer;* Dr. M. G. Parker, Lowell, *Librarian.*

Middlesex South.—Dr. A. C. Webber, Cambridgeport, *President;* Dr. A. Hosmer, Watertown, *Vice-President;* Dr. Charles E. Vaughan, Cambridge, *Secretary;* Dr. J. W. Willis, Waltham, *Treasurer;* Dr. C. K. Cutter, Charlestown, *Librarian.*

Norfolk.—Dr. Robert Amory, Brookline, *President;* Dr. W. C. B. Fifield, Dorchester, *Vice-President;* Dr. H. R. Stedman, Roxbury, *Secretary and Librarian;* Dr. N. Call, Roxbury, *Treasurer.*

Plymouth.—Dr. H. W. Dudley, Abington, *President;* Dr. W. R. Howes, Hanover, *Vice-President;* Dr. Benjamin F. Hastings, South Abington, *Secretary and Treasurer;* Dr. B. Hubbard, Plymouth, *Librarian.*

Suffolk.—Dr. Charles D. Homans, Boston, *President;* Dr. C. Ellis, Boston, *Vice-President;* Dr. T. M. Rotch, Boston, *Secretary;* Dr. Adino B. Hall, Boston, *Treasurer;* Dr. B. Joy Jeffries, Boston, *Librarian.*

Worcester.—Dr. F. D. Brown, Webster, *President;* Dr. Emerson Warner, Worcester, *Vice-President;* Dr. W. H. Workman, Worcester, *Secretary;* Dr. L. Wheeler, Worcester, *Treasurer;* Dr. Lewis S. Dixon, Worcester, *Librarian.*

Worcester North.—Dr. George D. Colony, Fitchburg, *President;* Dr. Edward J. Sawyer, Gardner, *Vice-President;* Dr. F. W. Russell, Winchendon, *Secretary;* Dr. E. P. Miller, Fitchburg, *Treasurer;* Dr. Charles H. Rice, Fitchburg, *Librarian.*

Massachusetts Medical Society.

PROCEEDINGS OF THE COUNCILLORS.

October 2, 1878.

A Stated Meeting of the Councillors was held in the Rooms of the Society, No. 36 Temple Place, Boston, on Wednesday, October 2, 1878, at 11 o'clock, A.M.

The President, Dr. G. H. Lyman, in the Chair.

The following Councillors were present:

Barnstable.
P. Pineo.

Berkshire.
C. T. Collins,
L. Miller.

Bristol North.
J. R. Bronson,
C. Howe,
S. D. Presbrey.

Bristol South.
F. H. Hooper,
E. T. Learned,
J. H. Mackie.

Essex North.
C. G. Carlton,
W. Cogswell,
W. D. Lamb.

Essex South.
E. Newhall,
G. S. Osborne,
J. G. Pinkham,
G. A. Priest.

Middlesex East.
W. S. Brown,
J. O. Dow.
F. Winsor.

Middlesex North.
C. Dutton,
C. A. Savory,
J. Spaulding.

Middlesex South.
B. F. D. Adams,
R. A. Blood,
H. Chapin,
J. C. Dorr,
R. L. Hodgdon,
C. B. Shute,
P. Wadsworth,
G. A. Warren,
E. S. Wood.

Norfolk.
A. D. Bacon,
G. W. Fay,
D. S. Fogg,
D. D. Gilbert,
A. R. Holmes,
J. Morison,
A. H. Nichols,
J. Seaverns,
C. E. Stedman,
J. Stedman,
S. E. Stone,
J. H. Streeter.

Plymouth.
N. P. Brownell,
E. A. Chase,
J. C. Gleason,
A. Millet.

Suffolk.
S. L. Abbot,
H. H. A. Beach,
H. I. Bowditch,

B. Brown,	D. H. Hayden,	J. P. Reynolds,
S. Cabot,	R. M. Hodges,	W. L. Richardson,
D. W. Cheever,	C. D. Homans,	G. C. Shattuck,
P. M. Crane,	J. B. S. Jackson,	D. H. Storer,
F. W. Draper,	J. F. Jarvis,	C. W. Swan,
C. Ellis,	G. H. Lyman,	H. W. Williams.
J. O. Green,	F. Minot,	
S. A. Green,	F. E. Oliver,	Total, 72.

The record of the previous meeting was read and accepted.

The President nominated and the Councillors appointed the following Delegates to the meeting of the Vermont Medical Society:

Drs. C. M. Hulbert, of South Dennis; J. R. Chadwick, of Boston.

The Committee on Membership and Resignations reported through Dr. Minot, and recommended that the following Fellows be allowed to resign:

Drs. Asahel Sumner Deane, of Taunton.
Norton Quincy Tirrell, of North Weymouth.

Also, that the following be allowed to retire:

Dr. Erastus Otis Phinney, of Melrose.

Also, that the following be dropped, for five years' delinquency in assessments:

Drs. Marcus F. Delano, of Cocheset.
Eugene C. Peck, of Oakdale.

The report of the Committee was accepted and its recommendations were adopted.

Voted,—That Drs. Nathaniel Downes, of East Boston, and William Thornton Parker, of Lenox, be restored to Fellowship.

Dr. J. H. Richardson, of Medfield, was elected to fill a vacancy in the board of Censors for the Norfolk District, caused by the resignation of Dr. H. P. Bowditch; and Dr. F. I. Knight, of Boston, was elected to fill a vacancy in the Councillors for the Suffolk District, caused by the death of Dr. G. H. Gay.

Voted,—That Dr. William Mack of Salem, be constituted a Member of the Committee on the petition of the Middlesex South

District Medical Society for the admission of female practitioners to the Massachusetts Medical Society, in place of Dr. A. Hosmer, ineligible.

Voted,—That Delegates to other State Medical Societies shall report at the Annual Meeting of the Society.

At 12 o'clock, M., the Councillors

Adjourned.

FRANCIS W. GOSS,
Recording Secretary.

FEBRUARY 5, 1879.

A STATED MEETING of the Councillors was held in the Hall of the Medical Library Association, No. 19 Boylston Place, Boston, on Wednesday, February 5, 1879, at 11 o'clock, A.M.

The President, Dr. G. H. LYMAN, in the Chair.

The following Councillors were present:

Barnstable.
P. Pineo.

Berkshire.
J. F. A. Adams.

Bristol North.
J. R. Bronson,
S. D. Presbrey.

Bristol South.
R. T. Davis,
F. H. Hooper,
J. H. Mackie.

Essex North.
C. G. Carlton,
E. P. Hurd,
S. K. Towle.

Essex South.
J. S. Emerson,
E. Newhall,
G. S. Osborne,
J. G. Pinkham.

Hampshire.
D. B. N. Fish.

Middlesex East.
W. S. Brown.

Middlesex North.
W. Bass,
C. M. Fisk,
L. S. Fox,
W. H. Leighton,
C. A. Savory,
J. Spaulding.

Middlesex South.
B. F. D. Adams,
E. R. Cogswell,
J. G. Dearborn,
J. C. Dorr,
R. L. Hodgdon,
C. B. Shute,
G. J. Townsend,
P. Wadsworth,
G. A. Warren,
W. W. Wellington.

Norfolk.
A. D. Bacon,
W. P. Bolles,
G. W. Fay,
D. S. Fogg,
D. D. Gilbert,
A. R. Holmes,

J. Morison,
A. H. Nichols,
J. Seaverns,
C. E. Stedman,
J. Stedman,
S. E. Stone,
J. H. Streeter.

Plymouth.

N. P. Brownell,
J. C. Gleason,
B. Hubbard,
A. Millet,
W. Richards.

Suffolk.

S. L. Abbot,
J. Ayer,
H. H. A. Beach,
H. J. Bigelow,
H. I. Bowditch,
B. Brown,
S. Cabot,
D. W. Cheever,
P. M. Crane,
F. W. Draper,
C. Ellis,
J. O. Green,
A. B. Hall,
D. H. Hayden,
R. M. Hodges,
C. D. Homans,
J. Homans,
W. Ingalls,
J. F. Jarvis,
B. J. Jeffries,
F. I. Knight,
G. H. Lyman,
F. Minot,
W. L. Richardson,
A. D. Sinclair,
D. H. Storer,
C. W. Swan,
O. F. Wadsworth,
C. E. Ware,
J. C. Warren.

Worcester.

F. D. Brown,
G. E. Francis,
W. H. Lincoln,
C. A. Wilcox.

Worcester North.

C. C. Field,
B. H. Hartwell,
G. Jewett.

Total, 87.

The record of the previous meeting was read and accepted.

The following were appointed Delegates to attend the Annual Meeting of other State Medical Societies:

Maine—Drs. F. Winsor of Winchester, S. K. Towle of Haverhill.

New Hampshire—Drs. W. Cogswell of Bradford, G. Jewett of Fitchburg.

Rhode Island—Drs. A. H. Johnson of Salem, R. T. Davis of Fall River.

Connecticut—Drs. S. D. Presbrey of Taunton, A. Hosmer of Watertown.

New York—Drs. C. T. Collins of Great Barrington, A. M. Smith of Pittsfield.

New Jersey—Dr. D. B. Van Slyck of Brookline.

The following Committees were appointed:

To audit the Treasurer's Accounts—Drs. C. E. Vaughan, J. Stedman.

To examine the Library—Drs. C. E. Stedman, O. F. Wadsworth.

To examine the By-Laws of District Societies—Drs. A. Hosmer, A. Millet, S. D. Presbrey.

In accordance with the recommendation of the Committee on Membership and Resignations, it was

Voted,—That Dr. James A. Stetson, of Quincy, made a retired member in 1875, be restored to active Fellowship at his own request.

Also, that Dr. R. N. Porter, of Deerfield, be dropped from the roll of Fellows for five years' delinquency in assessments.

Dr. Hosmer, for the Committee on By-Laws, reported that a question had arisen in some of the District Societies as to the interpretation in Article XVII. of the By-Laws of the words "in the proportion of one Councillor to every eight Fellows, as nearly as may be." The Committee requested the Council to define this portion of By-Laws XVII., and recommended the following, which was passed:

Voted,—That the words in question shall be held to mean that whenever the number of members of a District Society exceeds a multiple of eight, such excess, provided that it be not less than five, may be represented by one Councillor.

In accordance with the request of the Committee on the Code of Ethics for further time, it was

Voted,—That further time be granted till the meeting in October next.

The Committee appointed at the meeting in June last to consider the petition of the Worcester North District Medical Society regarding the town of Ayer, reported through its Chairman, Dr. Webber, and recommended the following, which was adopted:

Ordered,—That the town of Ayer be assigned to the Worcester North District.

Voted,—That Dr. George Warren Jones, of Newton Highlands, be restored to Fellowship.

Voted,—That the Treasurer of the Society be authorized, and is hereby instructed, to conclude arrangements with the officers of the Boston Medical Library Association, by which the Councillors of the Massachusetts Medical Society, together with its Standing and other Committees, and its Boards of Trial, may hold their

meetings, stated and special, ordinary and extraordinary, at the Rooms of the Association, during a term of years, upon payment of an annual sum not to exceed one hundred and fifty dollars.

At 12.30 P.M., the Councillors

Adjourned.

FRANCIS W. GOSS,
Recording Secretary.

Annual Meeting.

The Annual Meeting of the Councillors was held in the Hall of the Medical Library Association, No. 19 Boylston Place, Boston, on Tuesday, June 10, 1879, at 7 o'clock, P. M.

The President, Dr. G. H. Lyman, in the Chair.

The following Councillors were present:

Barnstable.
C. M. Hulbert,
G. N. Munsell,
P. Pineo.

Berkshire.
C. T. Collins.

Bristol North.
J. R. Bronson.

Bristol South.
S. W. Bowen,
R. T. Davis,
F. H. Hooper,
A. B. Paun.

Essex North.
C. G. Carlton,
W. Cogswell,
J. C. How,
S. K. Towle.

Essex South.
C. Burnham,
J. W. Goodell,
C. C. Pike.

Franklin.
J. W. D. Osgood.

Hampshire.
D. Thompson.

Middlesex East.
W. S. Brown,
J. M. Harlow,
F. Winsor.

Middlesex North.
C. Dutton,
L. S. Fox,
M. G. Parker.

Middlesex South.
B. F. D. Adams,
R. A. Blood,
H. Chapin,
J. G. Dearborn,
S. W. Driver,
J. C. Dorr,
J. A. Dow,
H. M. Field,
J. L. Hildreth,
D. W. Jones,
F. E. Porter,
L. L. Scammel.
A. J. Stevens,
C. E. Vaughan,
J. F. Wakefield,
W. W. Wellington,
J. H. Wright.

Norfolk.
A. D. Bacon,
W. P. Bolles,

R. T. Edes,
P. O'M. Edson,
W. S. Everett,
G. W. Fay,
J. S. Flint,
D. S. Fogg,
D. D. Gilbert,
J. H. Gilbert,
A. R. Holmes,
C. E. Stedman,
J. H. Streeter.

Plymouth.

A. Millet,
A. E. Paine.

Suffolk.

S. L. Abbot,
J. Ayer,
H. H. A. Beach,
H. J. Bigelow,
B. Brown,
S. Cabot,
D. W. Cheever,
P. M. Crane,
H. Curtis,
F. W. Draper,
C. Ellis,
J. O. Green,
S. A. Green,
F. B. Greenough,
A. B. Hall,
D. H. Hayden,
R. M. Hodges,
C. D. Homans,
W. Ingalls,
J. F. Jarvis,
G. H. Lyman,
F. Minot,
F. E. Oliver,
W. L. Richardson,
A. D. Sinclair,
D. H. Storer,
C. W. Swan,
O. F. Wadsworth,
C. E. Ware,
J. C. White.

Worcester.

G. E. Francis,
T. H. Gage,
W. H. Lincoln,
J. M. Rice,
J. Sargent,
W. Tyler,
C. A. Wilcox.

Worcester North.

B. H. Hartwell,
J. P. Lynde,
I. Russell,
F. H. Thompson.

Total, 97.

The record of the previous meeting was read and accepted.

The names of the Nominating Committee as chosen by the District Societies were read.

The Committee was composed as follows:

Drs.	P. Pineo	Barnstable.
	C. T. Collins	Berkshire.
	J. R. Bronson	Bristol North.
	F. H. Hooper	Bristol South.
	C. G. Carlton	Essex North.
	D. Choate	Essex South.
	J. W. D. Osgood	Franklin.
	T. L. Chapman	Hampden.
	D. Thompson	Hampshire.
	C. Dutton	Middlesex North.
	W. W. Wellington	Middlesex South.
	J. M. Harlow	Middlesex East.
	D. D. Gilbert	Norfolk.
	A. Millet	Plymouth.
	H. W. Williams	Suffolk.
	J. Sargent	Worcester.
	I. Russell	Worcester North.

The member from Suffolk being absent, Dr. F. Minot was substituted as its representative.

The Secretary read the names of sixty new, and of thirty-three deceased Fellows.

The Treasurer, Dr. Draper, read his annual report.

The Auditing Committee reported through Dr. Vaughan that the accounts were correctly cast and properly vouched, and also that the securities belonging to the Society corresponded with the list of the same as given in the last annual report of the Treasurer.

The Treasurer's report was then accepted.

The Committee on Membership and Resignations reported through Dr. Ayer, and recommended that the following Fellows be allowed to resign :

Drs. John S. Whiting, of Charlestown.
William L. Bond, of Charlestown.

Also, that the following be allowed to retire :

Drs. Henry Blanchard, of Neponset.
William D. Peck, of Sterling.
John Pierce, of Edgartown.
Joseph W. Rockwell, of Southwick.
Pierre Le B. Stickney, of Springfield.
James R. Morse, of North Cambridge.

Also, that the following surrender their Fellowship under By-Law VI., by removal from the State :

Drs. Rudolph Harmes, of Pleasant Mount, Pa.
J. G. Lussier, of Quebec, Can.
F. L. Morse, of Windsor, Vt.
I. H. Stearns, of Milwaukee, Wis.
G. W. Wolgamott, of Chicago, Ill.

Also, that the following be dropped for five years' delinquency in assessments :

Drs. R. H. Neefus, of Dalton.
H. E. Townsend, of Boston.

The report of the Committee was accepted, and its recommendations were adopted.

Dr. J. Sapolini of Milan, Italy, who was nominated at the last meeting, was elected to Honorary Membership.

Dr. Hodges reported for the Committee on Publications, and stated that no papers had been offered in competition for the Society's prize.

The Committee on the By-Laws of District Societies reported through Dr. Hosmer.

The Committee on the Library reported through Dr. C. E. Stedman, who also read the Librarian's report.

In accordance with the recommendation of the Committee on Finances, it was

Voted,—That three-fourths of the balance remaining in the treasury from last account be distributed as a dividend to the District Societies.

The Committee on Nominations reported a list of candidates for the offices of the Society for the ensuing year, and the same were duly elected by ballot.

President	Dr. GEORGE H. LYMAN.
Vice-President	Dr. DAVID P. SMITH.
Treasurer	Dr. F. W. DRAPER.
Corresponding Secretary . .	Dr. C. W. SWAN.
Recording Secretary . . .	Dr. F. W. GOSS.
Librarian	Dr. D. H. HAYDEN.

Viva voce, Dr. THOMAS H. GAGE, of Worcester, was chosen Orator, and

Dr. J. COLLINS WARREN, of Boston, Anniversary Chairman for the next Annual Meeting.

Voted,—That the next ***Annual Meeting*** be held in Boston, on ***the second Wednesday in June, 1880.***

On nomination by the President the following Standing Committees were appointed:

Of Arrangements.

R. Amory,	W. L. Richardson,	F. C. Shattuck,
C. J. Blake,	J. O. Green,	E. G. Cutler.

On Publications.

G. C. Shattuck,	R. M. Hodges,	B. E. Cotting.

On Membership and Resignations.

J. Ayer,	F. Minot,	J. C. White.

On Finances.

C. D. Homans, W. W. Wellington, G. J. Arnold.

To Procure Scientific Papers.

H. W. Williams, Calvin Ellis, F. K. Paddock,
G. S. Stebbins, J. R. Chadwick.

On Ethics and Discipline.

R. L. Hodgdon, G. J. Townsend, G. E. Francis,
A. H. Johnson, C. Howe.

A Committee which was appointed at the last meeting to prepare resolutions concerning the decease of Drs. J. Bigelow and J. B. S. Jackson, of Boston, reported, and it was

Voted,—That the tribute of the Committee be placed on the records of the Councillors.

A Committee which was also appointed for a similar purpose regarding the decease of Dr. W. W. Comstock, of Middleboro', reported, and it was

Voted,—That the resolutions of the Committee, together with the remarks of Dr. Storer thereon, be placed on the records of the Councillors, and a copy be sent to the family of the deceased.

Dr. Hodgdon, for the Committee appointed at the meeting in June, 1878, to report upon the petition of the Middlesex South District Medical Society for the admission of female practitioners into the Massachusetts Medical Society, reported that at the largest meeting of the Committee which it was possible to secure, the members were equally divided on the expediency of granting the petition.

Voted,—To recommit the matter to the Committee to report at the next Councillors' meeting.

On motion of Dr. Storer, it was

Voted,—That the Treasurer be authorized to purchase a safe for the keeping of the records of the Society, and that it be deposited in the rooms of the Medical Library Association.

Voted,—That the thanks of the Councillors be extended to the N. E. Historic, Genealogical Society for the safe keeping of the records of the Massachusetts Medical Society during the past five years.

On motion of Dr. Draper, it was

Resolved,—That Frank W. Draper, Treasurer, be and is hereby authorized to sell, assign or convey all United States Bonds registered in the name of The Massachusetts Medical Society on the books of the Treasury Department, until such authority is officially revoked and notice of revocation is properly given to the Treasury Department.

Voted,—That Drs. James Root Fairbanks, of Ashfield, and Peter Emmett Hubon, of Worcester, be restored to Fellowship.

Dr. Streeter, of the Norfolk District, stated that at the last meeting of that Society, the Councillors for that District were instructed to request permission for their Society to hold its meetings outside of the limits of the District. He also offered resolutions to permit District Societies to meet outside the limits of their Districts.

After considerable discussion, in which Drs. Bronson, Bolles, Davis and Miller took part, it was

Voted,—To reconsider the action of the Councillors, June 12, 1877, when it was "*Voted*, That a District Medical Society cannot legally hold an organized meeting for any purpose whatever, at any other than some place within the limits of its own District."

At 9.30 P.M., the Councillors

Adjourned.

FRANCIS W. GOSS,
Recording Secretary.

Massachusetts Medical Society.

PROCEEDINGS OF THE SOCIETY.

ANNUAL MEETING.

First Day.

The Society met in Horticultural Hall, Boston, on Tuesday, June 10, 1879, at 12 o'clock, M.

The President, Dr. G. H. Lyman, in the Chair.

The reading of papers was begun as follows:

I.—*Cases of Insanity following Acute Diseases.* By James B. Ayer, M.D., of Boston. After the reading of the paper, a discussion ensued, in which Drs. C. C. Field, T. H. Gage and T. W. Fisher took part.

II.—*The Physician's True Position in Society.* By Rollin C. Ward, M.D., of Northfield.

III.—*Intestinal Catarrh of Infants.* By George K. Sabine, M.D., of Brookline. Following the reading of the paper there was a discussion, in which Drs. J. M. Harlow, J. S. Greene, F. C. Shattuck, H. Osgood, T. M. Rotch, D. Hunt, A. P. Weeks, J. C. Gleason, W. G. Brownson of Conn., J. P. Lynde and E. Chenery engaged.

At 2 o'clock, P.M., it was

Voted,—To adjourn until 9 o'clock, A.M., tomorrow, the Fellows of the Society being invited to attend the meeting of the Medico-Legal Society, to be held this P.M. at 3 o'clock.

FRANCIS W. GOSS,
Recording Secretary.

Second Day.

The Society met in Horticultural Hall, Boston, on Wednesday, June 11, 1879, at 9 o'clock, A.M., for the Anniversary Exercises.

The President, Dr. G. H. Lyman, in the Chair.

The records of the last Annual Meeting were read and accepted.

The Secretary read the names of Fellows admitted since the last Annual Meeting, and of Fellows whose deaths had been reported.

Fellows admitted since June 11, 1878.

1878	Ambrose, George Booth	Cambridge.
1879	Bacon, Jonas Edward	Brockton.
1878	Bartlett, George Pinkham	Woburn.
1879	Battershall, Joseph Ward	Yarmouthport.
1879	Baylies, Andrew	Lynn.
1878	Bean, James Harvey	Medford.
1879	Blaisdell, Albert Franklin	Provincetown.
1878	Boland, Elisha S.	Boston.
1878	Broughton, Henry White	Boston.
1878	Brown, John Peaslee	Taunton.
1879	Brown, Roscoe Ellsworth	North Weymouth.
1878	Brown, Wesley Everett	Gilbertville.
1878	Bullard, Edwin Charles	Boston.
1878	Burrill, Herbert Leslie	Boston.
1879	Comey, Perley Pierce	Clinton.
1879	Cook, Charles Henry	Natick.
1879	Dunbar, Eugene Fillmore	Boston.
1879	Dwight, James	Boston.
1879	Elliott, James Prescott	North Woburn.
1879	Felton, George Hurlbert	Haverhill.
1878	Fitz, Samuel Eaton	Roxbury.
1878	Flagg, Urburn Hallock	Mettineaque.
1879	Foster, Lanora	Boston.
1879	Foster, William Hudson	Haverhill.
1878	Graves, Frank Walker	Woburn.
1879	Haddock, Charles Whitney	Beverly.
1878	Ham, Otis French	Boston.
1879	Hannum, James Wilson	Westfield.
1878	Haven, Henry Cecil	Boston.
1879	Hicks, Herbert Dexter	Boston.

1878	Holmes, Walter Hamlin	Boston.
1878	Hyde, Edward	Lowell.
1878	Johnson, William Lewis	Cambridge.
1879	Kelly, William Philip	Woburn.
1879	Kimball, William G.	Worthington.
1879	Leonard, Milton Hall	New Bedford.
1879	Manley, Thomas Henry	Lawrence.
1879	Matte, Joseph Hubert Ambrose	North Adams.
1878	Maxwell, Warren Brown	Farnumsville.
1878	May, Calvin Sloane	Danvers.
1878	McCarty, James Joseph	Lowell.
1878	Meader, Charles Eugene	Cambridge.
1879	Moulton, Albert Roscoe	Worcester.
1879	Nutting, David Hubbard	Chicopee Falls.
1879	Page, Frank Wilfred	Somerville.
1879	Phelan, Arthur Quin	Lowell.
1879	Plimpton, Lewis Henry	Boston.
1879	Prince, Morton Henry	Boston.
1879	Raymenton, William Heweston	Worcester.
1879	Smith, Henry Sutton Burgess	Middleboro'.
1878	Smith, Jonathan Jason	Somerville.
1879	Squier, Angelo Orin	North Wilbraham.
1879	Thayer, Charles Paine	Boston.
1879	Tuttle, George Thomas	Boston.
1878	Viles, Clarence Albertus	Lowell.
1878	Watson, Francis Sedgwick	Boston.
1879	Watson, George Henry	Halifax.
1878	Wheeler, John Brooks	Boston.
1879	Whitmore, Albion Stenson	Boston.
1878	Wyman, Samuel Edwin	Arlington.

Total, 60.

Also, the following, elected to Honorary Membership:

1879	Sapolini, J.	Milan, Italy.

List of Deceased Fellows.

Admitted.	Name.	Residence.	Date of Death.	Age.
1847	AINSWORTH, FREDERIC SMITH..	Boston	Oct. 5, 1878	58
1839	APPLETON, BENJAMIN BARNARD	Cambridgeport .	July 14, 1878	63
1850	*ARNOLD, SALMON AUGUSTUS..	Providence, R.I.	Dec. 12, 1878	81
1860	BARNES, EDWARD FORBES. ...	Marlboro'	Nov. 2, 1878	69
1813	BIGELOW, JACOB.....	Boston	Jan. 10, 1879	91
1877	BURTON, HENRY WINGFIELD ..	Brighton.....	Jan. 16, 1879	28
1846	COMSTOCK, WILLIAM WHIPPLE.	Middleboro'	Oct. 20, 1878	77
1871	DAVENPORT, JAMES HENRY....	Roxbury	Dec. 26, 1878	32
1842	DURKEE, SILAS.....	Boston	July 17, 1878	79
1849	DYER, JONAH FRANKLIN.....	Annisquam	Feb. 9, 1879	53
1863	FENN, ARTEMAS IRA.....	Boston.....	Mch. 19, 1879	51
1848	GAY, GEORGE HENRY.....	Boston.....	Aug. 12, 1878	55
1836	*GEDDINGS, ELI.....	Charleston, S. C.	Oct. 12, 1878	80
1851	HAWKES, ELIHU SMEAD..	North Adams...	May 17, 1879	78
1874	HOWE, SAMUEL.....	Boston	April 30, 1879	29
1832	JACKSON, JOHN BARNARD SWETT	Boston.....	Jan. 6, 1879	72
1869	KITTREDGE, JOSEPH.....	North Andover..	July 10, 1878	56
1834	KITTREDGE, THEODORE.....	Waltham.....	May 16, 1879	77
1860	MILLS, CHARLES DRAKE.....	Pittsfield.....	Dec. 17, 1878	51
1834	MONROE, ALEXANDER LEBARON	Medway.....	Feb. 28, 1879	78
1841	NICHOLS, JOSEPH DEAN.....	Taunton.....	May 26, 1879	77
1841	ORR, SAMUEL ANGIER.....	E. Bridgewater.	Aug. 9, 1878	76
1856	PALMER, JOHN KINSLEY.....	Cambridgeport..	Dec. 3, 1878	73
1841	PHELPS, THADDEUS.....	Attleboro' Falls.	May. 31, 1879	69
1837	POOLE, ALEXANDER.....	Wakefield.....	Aug. 30, 1878	74
1839	RICHARDSON, SAMUEL.....	Watertown.....	Feb. 12, 1879	84
1836	ROBBINS, JAMES WATSON.....	Uxbridge.....	Jan. 10, 1879	76
1832	STEVENS, WILLIAM FLINT.....	Stoneham	Feb. 16, 1879	72
1864	STICKNEY, HORATIO GATES....	Springfield	Dec. 15, 1878	46
1876	THOMPSON, ANDREW JACKSON..	Salem	April 28, 1879	55
1845	WILBUR, JOHN RECORD.....	Chicopee Falls..	Sept. 7, 1878	61
1854	WILLIAMS, ELISHA....	Hinsdale	Nov. 24, 1878	53
1855	*WOOD, GEORGE B.....	Philadelphia, Pa	Mch. 31, 1879	82
1878	WOOD, GEORGE WILLIAM.....	Southampton ...	Aug. 22, 1878	25

* Honorary.

Total, 34

The Treasurer, Dr. Draper, read his annual report.

The Committee appointed at the meeting of the Councillors in June, 1878, at the request of the Suffolk District Medical Society, "to report to the Society on the questions of importance which will arise in connection with the proposed revision of the Pharmacopœia," reported through its Chairman, Dr. Amory, and recommended the following resolutions, which were passed:

That the Massachusetts Medical Society appoint three Delegates to attend the National Convention for the Revision of the Pharmacopœia, which will meet in Washington, D. C., on the first Wednesday in May, 1880.

That the Massachusetts Medical Society do hereby recommend to the Convention for the revision of the Pharmacopœia the adoption of the metric system of weights and measures, in addition to that now in use, in the directions for making preparations and in the statement of doses.

That the Massachusetts Medical Society recommend also that the average doses for an adult, of the various medicinal preparations of the U. S. Pharmacopœia, be specified in the next edition.

That the Massachusetts Medical Society is of the opinion that the usefulness of the next edition will be greatly increased by the addition of more information upon the botany, chemistry, physical appearances, of the various substances in the list of Materia Medica, also the tests for their purity and strength, the physiological and therapeutical effects, antidotes to poisons, and the chemical formulæ of those substances whose composition is accurately known; and thus place the Pharmacopœia in the stead of the Dispensatories.

That the Massachusetts Medical Society is of the opinion that an annual supplement should also be prepared after the publication of the decennial revision.

That the Massachusetts Medical Society is also of the opinion that the value of the Pharmacopœia would be increased by the employment of the best professional talent in the preparation of the decennial revision and proposed annual supplements of the Pharmacopœia; and in order to obtain such talent the Committee of revision should be allowed a fixed copyright interest in the sales of the work, and this proceed should serve for a remuneration to those whom it employs in the actual labor of revision.

Finally, that the materials collected by the Committee of the Massachusetts Medical Society, together with their report, be presented by the Delegates from this Society to the next Convention for the Revision of the Pharmacopœia.

In accordance with the above, the Society appointed the members of the Committee, viz., Drs. R. Amory, R. T. Edes and E. S. Wood, to be Delegates from the Society to the Convention for the Revision of the Pharmacopœia.

Papers were read as follows:

IV.—*The Trials and Triumphs of the Country Doctor.* By Benjamin D. Gifford, M.D., of So. Chatham.

V.—*Insane Drunkards.* — By Theodore W. Fisher, M.D., of Boston.

VI.—*Some Diseases of the Eye requiring immediate Treatment.*—By Charles H. Williams, M.D., of Boston.

The following Delegates from other State Medical Societies were present at the meetings:

New Hampshire Medical Society.—Drs. A. N. Crosby, G. W. Cook.

Rhode Island Medical Society.—Dr. H. G. Miller.

Connecticut Medical Society.—Drs. W. A. M. Wainwright, W. G. Brownson.

New York Medical Society.—Dr. P. R. H. Sawyer.

The President introduced Drs. Crosby, Cook, Wainwright and Sawyer, who presented the greetings of their Societies.

The President called upon the Delegates from the Society to other State Medical Societies to report.

Dr. C. T. Collins, Delegate to the New York Medical Society, and Dr. D. B. Van Slyck, Delegate to the New Jersey Medical Society, made brief verbal reports.

Dr. Marcy showed an interesting case of aneurismal varix.

At 12 o'clock the Annual Discourse by Dr. George W. Garland, of Lawrence, was delivered.

Dr. Garland stated that owing to debility resulting from recent illness, he had requested Dr. John Crowell, of Haverhill, to read the discourse.

At the close of the address, the Society presented to Dr. Garland a vote of thanks for the able, eloquent and eminently practical nature of his address.

Dr. Bolles offered resolutions advocating the use of the metrical system.

On motion of Dr. Collins it was

Voted,—That the resolutions be laid on the table.

At 1 o'clock, P.M., the Society adjourned to the Music Hall, where dinner was served to nearly six hundred and fifty Fellows.

FRANCIS W. GOSS,
Recording Secretary.

TREASURER'S REPORT.

THE Treasurer begs leave to report that he has received for the Society, during the year ending May 31, 1879, $10,186.63; that he has expended $8,334.53; and that the balance remaining in the treasury is $1,852.10.

The items of receipt and expenditure are exhibited in the accompanying balance-sheet.

The Society's funded property remains as reported at the last annual meeting; it is distributed as follows:

Shattuck Fund, ...	$9,166.87
Invested in a Mass. Hospital Life Ins. Annuity Policy.	
Phillips Fund, ...	10,000.00
Invested in 5 per cent. United States bonds.	
General Fund, ...	11,253.30
Invested in Mass. Hospital Life Insurance Annuity Policies.	
Cotting Fund, ...	1,000.00
On deposit in Provident Institution for Savings.	
The amount of the invested funds is . .	$31,420.17

In accordance with the order passed at the last stated meeting of the Councillors, an arrangement has been effected with the Boston Medical Library Association by which, for the sum of $150.00 per annum, the Council of the Society, its Committees and its Boards of Trial may meet at the hall of the Association, 19 Boylston Place, Boston, during the ensuing five years; the sum specified covers all expenses of rent, light, heating and attendance.

The vote of the Councillors instructing the Treasurer to collect the dues of certain delinquent Fellows of the Society by process of law has been fulfilled, and the sum of $76.86 has been thereby added to the Society's funds.

Respectfully submitted,

F. W. DRAPER,
Treasurer.

BOSTON, June 1, 1879.

Dr. F. W. Draper, Treasurer, in Account with

INCOME.

Balance from last account		$2216 66
Assessments paid to the Treasurer		1423 40
Assessments paid to DISTRICT TREASURERS:—		
Barnstable	$85 00	
Berkshire	145 00	
Bristol North	100 00	
Bristol South	135 00	
Essex North	475 00	
Essex South	295 00	
Franklin	130 00	
Hampden	165 00	
Hampshire	155 00	
Middlesex East	95 00	
Middlesex North	425 00	
Middlesex South	685 00	
Norfolk	115 00	
Plymouth	110 00	
Suffolk	1485 00	
Worcester	310 00	
		4910 00
Interest account:—		
General Fund	$478 26	
Shattuck Fund	592 38	
Phillips Fund	500 93	
Cotting Fund	40 00	
		1611 57
Diplomas		25 00
		$10,186 63

the Massachusetts Medical Society. Cr.

EXPENSES.

On account of Committee of Arrangements for the Annual Meeting, 1878:—		
Caterer's Bill	$1315 00	
Cigars	89 00	
Hall	204 00	
Incidentals	67 16	
Music	115 00	
Printing	32 25	
		$1822 41
Expenses of Committee on Ethics and Discipline		24 00
Committee on Publications:—		
Braithwaite's Retrospect	1735 00	
Incidentals	70 00	
Express	2 60	
Printing and Engraving	883 44	
Prize Essay	200 00	
		2891 04
Committee on Code of Ethics:—		
Printing and Postage		59 71
Committee on Pharmacopœia:—		
Clerk	35 17	
Postage	19 01	
Printing	61 50	
		115 68
Councillors' Lunches at Stated Meetings		125 00
District Societies' Account:—		
Advertising Censors' Meetings	3 75	
Censors' Fees	171 00	
Dividend of 1878	1702 00	
Treasurers' Commissions	288 88	
		2165 63
Librarian's Expenses:—		
Clerk	63 00	
Incidentals	6 00	
Postage	255 28	
Printing	4 25	
		328 53
Recording Secretary's Expenses:—		
Incidentals	10 00	
Postage	69 47	
Printing	47 52	
		126 99
Rent		100 00
On Treasurer's Account:—		
Incidentals	28 15	
Legal Fees	8 54	
Postage	61 50	
Printing	45 00	
Salary	400 00	
Stationery	32 35	
		575 54
		8834 53
Balance on hand,		1852 10
		$10,186 63

Officers of the Massachusetts Medical Society.

1879–80.

Chosen June 10, 1879.

GEORGE H. LYMAN, . . . Boston, . President.
DAVID P. SMITH, ... Springfield, Vice-President.
FRANK W. DRAPER, . . . Boston, . Treasurer.
CHARLES W. SWAN, . . . Boston, . Cor. Secretary.
FRANCIS W. GOSS, . . . Roxbury, . Rec. Secretary.
DAVID H. HAYDEN, . . . Boston, . Librarian.
THOMAS H. GAGE, . . . Worcester, Orator.
J. COLLINS WARREN, . . Boston, . Anniv. Chairman.

Standing Committees.

Of Arrangements.

R. Amory, J. O. Green,
C. J. Blake, F. C. Shattuck,
W. L. Richardson, E. G. Cutler.

On Publications.

G. C. Shattuck, R. M. Hodges, B. E. Cotting.

On Membership and Resignations.

J. Ayer, F. Minot, J. C. White.

On Finances.

C. D. Homans, W. W. Wellington, G. J. Arnold.

To Procure Scientific Papers.

H. W. Williams, Calvin Ellis, F. K. Paddock,
G. S. Stebbins, J. R. Chadwick.

On Ethics and Discipline.

R. L. Hodgdon, G. J. Townsend, G. E. Francis,
A. H. Johnson, C. Howe.

Presidents of District Societies—Vice-Presidents (Ex-Officiis).

[Arranged according to Seniority.]

J. Leonard,
W. H. Kimball,
A. C. Webber,
C. Ellis,
E. P. Abbe,
G. D. Colony,
J. Garland,
F. D. Brown,
F. F. Brown,
R. Amory,
H. W. Dudley,
H. J. Millard,
G. H. Pillsbury,
H. C. Bullard,
C. B. Smith,
F. J. Canedy,
S. Lawton.

Councillors.

Barnstable.—Drs. S. H. Gould, Brewster; C. M. Hulbert, South Dennis; G. N. Munsell, Harwich; P. Pineo, Hyannis.

Berkshire.—Drs. J. F. A. Adams, Pittsfield; C. T. Collins, Great Barrington; G. C. Lawrence, North Adams; J. L. Miller, Sheffield; S. M. Reynolds, Richmond.

Bristol North.—Drs. J. R. Bronson, Attleboro'; N. Paige, S. D. Presbrey, Taunton.

Bristol South.—Drs. S. W. Bowen, R. T. Davis, Fall River; F. H. Hooper, J. H. Mackie, New Bedford; A. B. Paun, Middleboro'; F. A. Sawyer, Wareham.

Essex North.—Drs. C. G. Carlton, Lawrence; W. Cogswell, Bradford; D. Dana, Lawrence; J. A. Douglass, Amesbury; J. C. How, Haverhill; R. B. Root, Georgetown; G. W. Snow, Newburyport; S. K. Towle, Haverhill.

Essex South.—Drs. C. Burnham, Lynn; D. Choate, J. P. Fessenden, Salem; J. W. Goodell, Lynn; Y. G. Hurd, Ipswich; A. H. Johnson, Salem; C. A. Lovejoy, Lynn; C. C. Pike, Peabody; S. W. Torrey, Beverly.

Franklin.—Drs. E. C. Coy, Montague City; J. W. D. Osgood, Greenfield; C. E. Severance, Shelburne Falls.

Hampden.—Drs. H. C. Belden, W. Springfield; T. L. Chapman, Longmeadow; W. W. Gardner, V. L. Owen, P. LeB. Stickney, Springfield; J. H. Waterman, Westfield.

Hampshire.—Drs. P. Earle, Northampton; D. B. N. Fish, Amherst; C. L. Knowlton, D. Thompson, Northampton.

Middlesex East.—Drs. W. S. Brown, Stoneham; J. M. Harlow, Woburn; F. Winsor, Winchester.

Middlesex North.—Drs. W. Bass, Lowell; C. Dutton, Tyngsboro'; C. M. Fisk, L. S. Fox, W. H. Leighton, M. G. Parker, J. Spalding, Lowell.

Middlesex South.—Drs. B. F. D. Adams, Waltham; A. H. Blanchard, Sherborn; R. A. Blood, Charlestown; N. S. Chamberlain, Marlboro'; H. Chapin, Somerville; J. G. Dearborn, Charlestown; J. C. Dorr, Medford; J. A. Dow, Cambridgeport; S. W. Driver, Cambridge; H. M. Field, Newton; S. Hanscom, East Somerville; J. L. Hildreth, Cambridge; D. W. Jones, Newtonville; A. C. Livermore, Stow; F. E. Porter, Auburndale; L. L. Scammell, Hopkinton; A. J. Stevens, Holliston; C. E. Vaughan, Cambridge; J. F. Wakefield, Everett; W. W. Wellington, Cambridgeport; J. H. Wright, Natick.

Norfolk.—Drs. A. D. Bacon, Sharon; W. P. Bolles, Dorchester; R. T. Edes, P. O'M. Edson, Roxbury; W. S. Everett, Hyde Park; G. W. Fay, East Weymouth; J. S. Flint, Roxbury; D. S. Fogg, Norwood; D. D. Gilbert, Dorchester; J. H. Gilbert, Quincy; A. R. Holmes, Canton; C. E. Stedman, Dorchester; S. E. Stone, Walpole; J. H. Streeter, Roxbury.

Plymouth.—Drs. J. B. Brewster, Plymouth; N. P. Brownell, South Scituate; J. C. Gleason, East Abington; A. Millet, East Bridgewater; A. E. Paine, Brockton.

Suffolk.—Drs. S. L. Abbot, J. Ayer, H. H. A. Beach, H. J. Bigelow, C. J. Blake, H. I. Bowditch, B. Brown, S. Cabot, D. W. Cheever, P. M. Crane, H. Curtis, H. Derby, O. W. Doe, F. W. Draper, *Treasurer*, C. Ellis, R. H. Fitz, C. F. Folsom, J. O. Green, S. A. Green, F. B. Greenough, A. B. Hall, D. H. Hayden, *Librarian*, R. M. Hodges, C. D. Homans, J. Homans, W. Ingalls, J. F. Jarvis, B. J. Jeffries, G. H. Lyman, *President*, F. Minot, F. E. Oliver, J. P. Reynolds, W. L. Richardson, G. C. Shattuck, A. D. Sinclair, D. H. Storer, C. W. Swan, *Corresponding Secretary*, O. F. Wadsworth, C. E. Ware, J. C. Warren, Boston; W. G. Wheeler, Chelsea; J. C. White, H. W. Williams, Boston.

Worcester.—Drs. F. D. Brown, Webster; H. Clarke, G. E. Francis, T. H. Gage, Worcester; W. H. Lincoln, Millbury; O. Martin, Worcester; W. Peirce, West Boylston; J. M. Rice, J. Sargent, Worcester; W. Tyler, North Brookfield; C. A. Wilcox, Uxbridge.

Worcester North.—Drs. B. H. Hartwell, Ayer; J. P. Lynde, Athol; I. Russell, Winchendon; F. H. Thompson, Fitchburg.

Censors.

Barnstable.—Drs. J. M. Crocker, Provincetown; G. W. Doane, Hyannis; B. D. Gifford, Chatham; A. H. Newton, Provincetown; B. F. Seabury, Orleans.

Berkshire.—Drs. O. J. Brown, North Adams; C. W. Burton, Adams; F. K. Paddock, Pittsfield; A. M. Smith, Williamstown; D. M. Wilcox, Lee.

Bristol North.—Drs. E. J. Bassett, J. P. Brown, C. Howe, N. Paige, S. D. Presbrey, Taunton.

Bristol South.—Drs. J. Dwelly, Fall River; H. Johnson, A. M. Pierce, C. D. Stickney, New Bedford; J. B. Whitaker, Fall River.

Essex North.—Drs. G. W. Garland, Lawrence; C. D. Hunking, Haverhill; E. P. Hurd, Newburyport; M. Roberts, Lawrence; O. F. Seavey, Merrimac.

Essex South.—Drs. D. M. Elliot, Peabody; T. Kittredge, Salem; J. D. Lovering, Essex; C. S. May, Danvers; C. C. Sheldon, Lynn.

Franklin.—Drs. C. Bowker, Bernardston; E. A. Deane, Montague; G. M. Read, South Deerfield; A. C. Walker, Greenfield; R. C. Ward, Northfield.

Hampden.—Drs. S. W. Bowles, L. S. Brooks, G. C. McClean, Springfield; A. F. Reed, Holyoke; J. H. Waterman, Westfield.

Hampshire.—Drs. C. M. Barton, Hatfield; C. W. Cooper, Amherst; J. R. Greenleaf, Haydenville; E. B. Nims, C. Seymour, Northampton.

Middlesex East.—Drs. G. P. Bartlett, Woburn; A. H. Cowdrey, Stoneham; F. W. Graves, Woburn; G. E. Putney, Reading; W. F. Stevens, Stoneham.

Middlesex North.—Drs. E. B. Aldrich, W. M. Hoar, Lowell; W. H. Lathrop, Tewksbury; F. Nickerson, H. J. Smith, Lowell.

Middlesex South.—Drs. M. L. Brown, Natick; E. W. Emerson, Concord; M. A. Morris, Charlestown; A. L. Norris, East Cambridge; L. R. Stone, Newton.

Norfolk.—Drs. J. W. Chase, Dedham; O. F. Rogers, Dorchester; G. K. Sabine, Brookline; J. Seaverns, E. T. Williams, Roxbury.

Plymouth.—Drs. H. F. Borden, E. A. Chase, Brockton; F. Collamore, North Pembroke; W. R. Howes, Hanover; J. W. Spooner, Hingham.

Suffolk.—Drs. E. H. Bradford, O. W. Doe, T. Dwight, A. M. Sumner, T. Waterman, Boston.

Worcester.—Drs. G. J. Bull, Worcester; E. B. Harvey, Westboro'; J. W. Hastings, Warren; J. O. Marble, W. H. Workman, Worcester.

Worcester North.—Drs. J. M. Blood, Ashby; G. D. Colony, Fitchburg; C. C. Field, G. W. Pierce, Leominster; E. J. Sawyer, Gardner.

Commissioners of Trials.

Barnstable . .	B. F. Seabury . .	Orleans.
Berkshire . . .	Abner M. Smith .	Pittsfield.
Bristol North .	J. Murphy . . .	Taunton.
Bristol South .	E. T. Learned . .	Fall River.
Essex North . .	S. K. Towle . .	Haverhill.
Essex South . .	E. Newhall . . .	Lynn.
Franklin . . .	C. L. Fisk . . .	Greenfield.
Hampden . . .	C. Bell	Feeding Hills.
Hampshire . . .	W. M. Trow . .	Easthampton.
Middlesex East .	A. H. Cowdrey . .	Stoneham.
Middlesex North	N. Allen	Lowell.

Middlesex South	Z. B. Adams	Framingham.
Norfolk	T. H. Dearing	Braintree.
Plymouth	J. S. Hammond	Plympton.
Suffolk	C. W. Swan	Boston.
Worcester	J. H. Robinson	Southboro'.
Worcester North	C. C. Field	Leominster.

Officers of the District Medical Societies.

Barnstable.—Dr. J. Leonard, Sandwich, *President;* Dr. W. J. Nickerson, South Yarmouth, *Vice-President;* Dr. W. N. Stone, Wellfleet, *Secretary;* Dr. C. M. Hulbert, South Dennis, *Treasurer;* Dr. J. M. Smith, Barnstable, *Librarian.*

Berkshire.—Dr. H. J. Millard, North Adams, *President;* Dr. A. N. Allen, Pittsfield, *Vice-President;* Dr. W. L. Paddock, Dalton, *Secretary;* Dr. W. M. Mercer, Pittsfield, *Treasurer;* Dr. W. E. Vermilye, Pittsfield, *Librarian.*

Bristol North.—Dr. H. C. Bullard, North Attleboro', *President;* Dr. N. M. Ransom, Taunton, *Vice-President;* Dr. W. S. Robinson, Taunton, *Secretary;* Dr. C. Howe, Taunton, *Treasurer and Librarian.*

Bristol South.—Dr. E. P. Abbé, New Bedford, *President;* Dr. C. L. Swasey, New Bedford, *Vice-President;* Dr. A. M. Pierce, New Bedford, *Secretary, Treasurer and Librarian.*

Essex North.—Dr. W. H. Kimball, Andover, *President;* Dr. J. Crowell, Haverhill, *Vice-President;* Dr. G. W. Snow, Newburyport, *Secretary and Treasurer;* Dr. S. Drinkwater, Haverhill, *Librarian.*

Essex South.—Dr. J. Garland, Gloucester, *President;* Dr. J. G. Pinkham, Lynn, *Vice-President;* Dr. R. F. Dearborn, Lynn, *Secretary;* Dr. W. Mack, Salem, *Treasurer and Librarian.*

Franklin.—Dr. F. J. Canedy, Shelburne Falls, *President;* Dr. J. H. Goddard, Orange, *Vice-President;* Dr. A. C. Deane, Greenfield, *Secretary, Treasurer and Librarian.*

Hampden.—Dr. S. Lawton, Springfield, *President;* Dr. H. Gamwell, Westfield, *Vice-President;* Dr. F. W. Chapin, Springfield, *Secretary, Treasurer and Librarian.*

Hampshire.—Dr. C. B. Smith, Granby, *President;* Dr. J. B. Learned, Florence, *Vice-President;* Dr. C. M. Barton, Hatfield, *Secretary and Librarian;* Dr. J. Dunlap, Northampton, *Treasurer.*

Middlesex East.—Dr. F. F. Brown, Reading, *President;* Dr. D. W. Wight, Winchester, *Vice-President;* Dr. J. R. Barss, Melrose, *Secretary;* Dr. J. O. Dow, Reading, *Treasurer and Librarian.*

Middlesex North.—Dr. G. H. Pillsbury, Lowell, *President;* Dr. G. E. Pinkham, Lowell, *Vice-President;* Dr. G. C. Osgood, Lowell, *Secretary;* Dr. N. B. Edwards, North Chelmsford, *Treasurer;* Dr. E. W. Trueworthy, Lowell, *Librarian.*

Middlesex South.—Dr. A. C. Webber, Cambridgeport, *President;* Dr. A. Hosmer, Watertown, *Vice-President;* Dr. D. M. Edgerly, Cambridgeport, *Secretary;* Dr. J. W. Willis, Waltham, *Treasurer;* Dr. C. K. Cutter, Charlestown, *Librarian.*

Norfolk.—Dr. R. Amory, Brookline, *President;* Dr. W. C. B. Fifield, Dorchester, *Vice-President;* Dr. C. E. Wing, Jamaica Plain, *Secretary and Librarian;* Dr. N. Call, Roxbury, *Treasurer.*

Plymouth.—Dr. H. W. Dudley, Abington, *President;* Dr. W. R. Howes, Hanover, *Vice-President;* Dr. B. F. Hastings, South Abington, *Secretary and Treasurer;* Dr. B. Hubbard, Plymouth, *Librarian.*

Suffolk.—Dr. C. Ellis, Boston, *President;* Dr. R. M. Hodges, Boston, *Vice-President;* Dr. T. M. Rotch, Boston, *Secretary;* Dr. A. B. Hall, Boston, *Treasurer;* Dr. B. J. Jeffries, Boston, *Librarian.*

Worcester.—Dr. F. D. Brown, Webster, *President;* Dr. E. Warner, Worcester, *Vice-President;* Dr. G. J. Bull, Worcester, *Secretary;* Dr. L. Wheeler, Worcester, *Treasurer;* Dr. L. S. Dixon, Worcester, *Librarian.*

Worcester North.—Dr. G. D. Colony, Fitchburg, *President;* Dr. E. J. Sawyer, Gardner, *Vice-President;* Dr. F. W. Russell, Winchendon, *Secretary;* Dr. E. P. Miller, Fitchburg, *Treasurer;* Dr. C. H. Rice, Fitchburg, *Librarian.*

APPENDIX TO CATALOGUE OF 1878.

Fellows admitted since June 11, 1878.

1878	Ambrose, George Booth	Cambridge.
1879	Bacon, Jonas Edward	Brockton.
1878	Bartlett, George Pinkham	Woburn.
1879	Battershall, Joseph Ward	Yarmouthport.
1879	Baylies, Andrew	Lynn.
1878	Bean, James Harvey	Medford.
1879	Blaisdell, Albert Franklin	Provincetown.
1878	Boland, Elisha S	Boston.
1878	Broughton, Henry White	Boston.
1878	Brown, John Peaslee	Taunton.
1879	Brown, Roscoe Ellsworth	North Weymouth.
1878	Brown, Wesley Everett	Gilbertville.
1878	Bullard, Edwin Charles	Boston.
1878	Burrill, Herbert Leslie	Boston.
1879	Comey, Perley Pierce	Clinton.
1879	Cook, Charles Henry	Natick.
1879	Dunbar, Eugene Fillmore	Boston.
1879	Dwight, James	Boston.
1879	Elliott, James Prescott	North Woburn.
1879	Felton, George Hurlbert	Haverhill.
1878	Fitz, Samuel Eaton	Roxbury.
1878	Flagg, Urburn Hallock	Mittineague.
1879	Foster, Lanora	Boston.
1879	Foster, William Hudson	Haverhill.
1878	Graves, Frank Walker	Woburn.
1879	Haddock, Charles Whitney	Beverly.
1878	Ham, Otis French	Boston.
1879	Hannum, James Wilson	Westfield.
1878	Haven, Henry Cecil	Boston.
1879	Hicks, Herbert Dexter	Boston.
1878	Holmes, Walter Hamlin	Boston.
1878	Hyde, Edward	Lowell.
1878	Johnson, William Lewis	Cambridge.
1879	Kelly, William Philip	Woburn.
1879	Kimball, William G	Worthington.
1879	Leonard, Milton Hall	New Bedford.
1879	Manley, Thomas Henry	Lawrence.
1879	Matte, Joseph Hubert Ambrose	North Adams.
1878	Maxwell, Warren Brown	Farnumsville.
1878	May, Calvin Sloane	Danvers.
1878	McCarty, James Joseph	Lowell.
1878	Meader, Charles Eugene	Cambridge.
1879	Moulton, Albert Roscoe	Worcester.
1879	Nutting, David Hubbard	Chicopee Falls.

1879	Page, Frank Wilfred . .	Somerville.
1879	Phelan, Arthur Quin . .	Lowell.
1879	Plimpton, Lewis Henry . .	Boston.
1879	Prince, Morton Henry . .	Boston.
1879	Raymenton, William Hewestón	Worcester.
1879	Smith, Henry Sutton Burgess .	Middleboro'.
1878	Smith, Jonathan Jason . .	Somerville.
1879	Squier, Angelo Orin . .	North Wilbraham.
1879	Thayer, Charles Paine . .	Boston.
1879	Tuttle, George Thomas . .	Boston.
1878	Viles, Clarence Albertus . .	Lowell.
1878	Watson, Francis Sedgwick .	Boston.
1879	Watson, George Henry . .	Halifax.
1878	Wheeler, John Brooks . .	Boston.
1879	Whitmore, Albion Stenson .	Boston.
1878	Wyman, Samuel Edwin . .	Arlington.

Also, the following, elected to Honorary Membership:

1879	Sapolini, Joseph . . .	Milan, Italy.

List of Deceased Fellows.

Admitted.	Name.	Residence.	Date of Death.	Age.
1847	AINSWORTH, FREDERIC SMITH..	Boston	Oct. 5, 1878	58
1839	APPLETON, BENJAMIN BARNARD	Cambridgeport .	July 14, 1878	63
1850	*ARNOLD, SALMON AUGUSTUS..	Providence, R.I.	Dec. 12, 1878	81
1860	BARNES, EDWARD FORBES.....	Marlboro'	Nov. 2, 1878	69
1813	BIGELOW, JACOB.....	Boston	Jan. 10, 1879	91
1877	BURTON, HENRY WINGFIELD ..	Brighton.....	Jan. 16, 1879	28
1846	COMSTOCK, WILLIAM WHIPPLE.	Middleboro'	Oct. 20, 1878	77
1871	DAVENPORT, JAMES HENRY....	Roxbury	Dec. 26, 1878	32
1842	DURKEE, SILAS.....	Boston	July 17, 1878	79
1849	DYER, JONAH FRANKLIN.....	Annisquam	Feb. 9, 1879	53
1863	FENN, ARTEMAS IRA.....	Boston.....	Mch. 19, 1879	51
1848	GAY, GEORGE HENRY.....	Boston.....	Aug. 12, 1878	55
1836	*GEDDINGS, ELI.....	Charleston, S. C.	Oct. 12, 1878	80
1851	HAWKES, ELIHU SMEAD.....	North Adams...	May 17, 1879	78
1874	HOWE, SAMUEL.....	Boston	April 30, 1879	29
1832	JACKSON, JOHN BARNARD SWETT	Boston.....	Jan. 6, 1879	72
1869	KITTREDGE, JOSEPH.....	North Andover..	July 10, 1878	56
1834	KITTREDGE, THEODORE.....	Waltham.....	May 16, 1879	77
1860	MILLS, CHARLES DRAKE.....	Pittsfield.....	Dec. 17, 1878	51
1834	MONROE, ALEXANDER LEBARON	Medway.....	Feb. 28, 1879	78
1841	NICHOLS, JOSEPH DEAN.....	Taunton.....	May 26, 1879	77
1841	ORR, SAMUEL ANGIER.....	E. Bridgewater.	Aug. 9, 1878	76
1856	PALMER, JOHN KINSLEY.....	Cambridgeport..	Dec. 3, 1878	73
1841	PHELPS, THADDEUS.....	Attleboro' Falls.	May. 31, 1879	69
1837	POOLE, ALEXANDER.....	Wakefield.....	Aug. 30, 1878	74
1839	RICHARDSON, SAMUEL.....	Watertown.....	Feb. 12, 1879	84
1836	ROBBINS, JAMES WATSON.....	Uxbridge.....	Jan. 10, 1879	76
1832	STEVENS, WILLIAM FLINT.....	Stoneham	Feb. 16, 1879	72
1864	STICKNEY, HORATIO GATES....	Springfield	Dec. 15, 1878	46
1876	THOMPSON, ANDREW JACKSON..	Salem	April 28, 1879	55
1845	WILBUR, JOHN RECORD.....	Chicopee Falls..	Sept. 7, 1878	61
1854	WILLIAMS, ELISHA.....	Hinsdale	Nov. 24, 1878	53
1855	*WOOD, GEORGE B.....	Philadelphia, Pa.	Mch. 31, 1879	82
1878	WOOD, GEORGE WILLIAM.....	Southampton ...	Aug. 22, 1878	25

* Honorary.

The following have been restored to Fellowship:

1878	Downes, Nathaniel . . .	East Boston.
1879	Fairbanks, James Root . .	Ashfield.
1879	Hubon, Peter Emmett . .	Worcester.
1879	Jones, George Warren . .	Newton Highlands.
1878	Parker, William Thornton . .	Lenox.

The following have been allowed to resign:

William L. Bond, of Charlestown.
Asahel S. Deane, of Taunton.
Norton Q. Tirrell, of North Weymouth.
John S. Whiting, of Charlestown.

The following have been dropped from the roll of Fellows for five years' delinquency in assessments:

Marcus F. Delano, of Cocheset.
R. H. Neefus, of Dalton.
Eugene C. Peck, of Oakdale.
R. N. Porter, of Deerfield.
H. E. Townsend, of Boston.

The following have surrendered their Fellowship under By-Law VI., by removal from the State:

Rudolph Harmes, of Pleasant Mount, Pa.
J. G. Lussier, of Quebec, Can.
F. L. Morse, of Windsor, Vt.
I. H. Stearns, of Milwaukee, Wis.
G. W. Wolgamott, of Chicago, Ill.

Massachusetts Medical Society.

PROCEEDINGS OF THE COUNCILLORS.

October 1, 1879.

A Stated Meeting of the Councillors was held in the Hall of the Medical Library Association, No. 19 Boylston Place, Boston, on Wednesday, October 1, 1879, at 11 o'clock, A.M.

The President, Dr. G. H. Lyman, in the Chair.

The following Councillors were present:

Barnstable.
C. M. Hulbert,
P. Pineo.

Bristol North.
J. R. Bronson,
S. D. Presbrey.

Bristol South.
R. T. Davis,
F. H. Hooper,
A. B. Paun,
F. A. Sawyer.

Essex North.
C. G. Carlton,
D. Dana,
J. C. How,
G. W. Snow,
S. K. Towle.

Essex South.
Y. G. Hurd,
A. H. Johnson,
C. A. Lovejoy,
C. C. Pike.

Middlesex East.
W. S. Brown,
J. M. Harlow,
F. Winsor.

Middlesex North.
W. Bass,
C. Dutton,
L. S. Fox,
W. H. Leighton,
M. G. Parker,
J. Spaulding.

Middlesex South.
B. F. D. Adams,
R. A. Blood,
N. S. Chamberlain,
J. G. Dearborn,
S. W. Driver,
J. L. Hildreth,
F. E. Porter,
A. J. Stevens,
C. E. Vaughan,
J. F. Wakefield,
W. W. Wellington.

Norfolk.
A. D. Bacon,
W. P. Bolles,
R. T. Edes,
W. S. Everett,
G. W. Fay,
D. S. Fogg,
D. D. Gilbert,
J. H. Gilbert,
A. R. Holmes,
S. E. Stone,
J. H. Streeter.

Plymouth.
N. P. Brownell,
J. C. Gleason,

A. E. Paine.

Suffolk.

S. L. Abbot,
J. Ayer,
H. H. A. Beach,
H. J. Bigelow,
S. Cabot,
P. M. Crane,
H. Derby,
F. W. Draper,
C. Ellis,
R. H. Fitz,
C. F. Folsom,
J. O. Green,
S. A. Green,
A. B. Hall,
D. H. Hayden,
R. M. Hodges,
C. D. Homans,
J. Homans,
W. Ingalls,
J. F. Jarvis,
B. J. Jeffries,
G. H. Lyman,
F. Minot,
J. P. Reynolds,
W. L. Richardson,
G. C. Shattuck,
A. D. Sinclair,
O. F. Wadsworth,
J. C. Warren,
W. G. Wheeler,
H. W. Williams.

Worcester.

H. Clarke,
G. E. Francis,
C. A. Wilcox.

Worcester North.

B. H. Hartwell,
Ira Russell.

Total, 87.

The record of the previous meeting was read and accepted.

On nomination by the President the following were appointed Delegates to attend the meetings of other State Medical Societies.

Vermont,—Dr. G. C. Shattuck, of Boston.
New York,—Dr. D. P. Smith, of Springfield.

The Committee on Membership and Resignations reported through Dr. Ayer, and recommended that the following be allowed to resign:

Dr. Otis F. Ham, of Centre Barnstead, N. H.

Also, that the following be allowed to retire:

Drs. John L. Miller, of Sheffield,
William Mason, of Charlestown.

Also, that the following surrender his Fellowship under By-Law VI., by removal from the State:

Dr. William H. Hills, of San Antonio, Texas.

Also, that the following be restored to Fellowship:

Dr. Asahel Sumner Deane, of Taunton.

The report of the Committee was accepted and its recommendations were adopted.

Dr. Cotting, Chairman of the Committee on the Code of Ethics, presented a Draft Code, together with resolutions in case it should be adopted by the Councillors. The report thus presented was signed by Drs. Cotting, Reynolds, Fox and Adams.

Dr. Wellington moved that the code and resolutions be adopted.

Dr. Pineo moved to amend by the substitution of the minority report by Dr. Bigelow.

Dr. Bigelow read his minority report.

After discussion it was

Voted,—That the consideration of these reports be deferred until the next meeting.

Dr. Hodgdon, Chairman of the Committee on the petition of the Middlesex South District Medical Society for the admission of properly educated female practitioners to the Massachusetts Medical Society, stated that the members of the committee had been unable to agree in a report.

Dr. Williams, in behalf of himself and Drs. Mack and Mackie, recommended that no action such as is asked for in the petition be taken at this time.

Dr. Hodgdon, for himself and Dr. Francis, dissented from the majority, and recommended the granting of the petition.

Dr. How moved the adoption of the majority report.

Dr. Towle moved as an amendment, that the minority report be substituted for that of the majority.

After remarks by Dr. Bronson advocating the minority report, the amendment was adopted—48 in the affirmative, 32 in the negative—and the report as amended was then adopted. This action resulted in the passage of the following:

Voted,—That the Censors of the Massachusetts Medical Society be, and hereby are, instructed to admit women to examination for admission to the Society on the same conditions as men.

Voted,—That the name of Dr. Herbert Warren, of Worcester, be replaced upon the roll of Fellows.

At 12.45, P.M., the Councillors adjourned.

FRANCIS W. GOSS,
Recording Secretary.

February 4, 1880.

A Stated Meeting of the Councillors was held in the Hall of the Medical Library Association, No. 19 Boylston Place, Boston, on Wednesday, February 4, 1880, at 11 o'clock, A.M.

The President, Dr. G. H. Lyman, in the Chair.

The following Councillors were present:

Barnstable.
G. N. Munsell,
P. Pineo.

Berkshire.
J. F. A. Adams,
C. T. Collins.

Bristol North.
J. R. Bronson,
S. D. Presbrey.

Bristol South.
R. T. Davis,
J. H. Mackie,
A. B. Paun,
F. A. Sawyer.

Essex North.
W. Cogswell,
D. Dana,
G. W. Snow.

Essex South.
C. Burnham,
A. H. Johnson,
C. A. Lovejoy,
C. C. Pike,
S. W. Torrey.

Middlesex East.
W. S. Brown,
J. M. Harlow,
F. Winsor.

Middlesex North.
W. Bass,
C. Dutton,
L. S. Fox,
M. G. Parker,
J. Spaulding.

Middlesex South.
B. F. D. Adams,
A. H. Blanchard,
R. A. Blood,
J. G. Dearborn,
J. C. Dorr,
H. M. Field,
D. W. Jones,
F. E. Porter,
C. E. Vaughan,
J. F. Wakefield,
W. W. Wellington,
J. H. Wright.

Norfolk.
A. D. Bacon,
W. P. Bolles,
P. O'M. Edson,
W. S. Everett,
G. W. Fay,
D. S. Fogg,
D. D. Gilbert,
J. H. Gilbert,
J. H. Streeter.

Plymouth.
N. P. Brownell,

J. C. Gleason,
Asa Millet,
A. E. Paine.

Suffolk.

James Ayer,
H. H. A. Beach,
H. J. Bigelow,
C. J. Blake,
H. I. Bowditch,
S. Cabot,
D. W. Cheever,
P. M. Crane,
H. Curtis,
H. Derby,
O. W. Doe,
F. W. Draper,
C. Ellis,
C. F. Folsom,
J. O. Green,
S. A. Green,
F. B. Greenough,
A. B. Hall,
D. H. Hayden,
R. M. Hodges,
C. D. Homans,
J. Homans,
W. Ingalls,
J. F. Jarvis,
B. J. Jeffries,
G. H. Lyman,
F. Minot,
J. P. Reynolds,
W. L. Richardson,
G. C. Shattuck,
A. D. Sinclair,
C. W. Swan,
C. E. Ware,
J. C. Warren,
W. G. Wheeler,
H. W. Williams.

Worcester.

H. Clarke,
W. H. Lincoln,
W. Tyler.

Worcester North.

B. H. Hartwell,
Ira Russell.

Total, 92.

The record of the previous meeting was read and accepted.

The following were appointed Delegates to attend the Meetings of other State Medical Societies:

Maine—Drs. H. W. Williams, E. N. Whittier, of Boston.

New Hampshire—Drs. J. J. Crowell, of Haverhill; G. W. Gay, of Boston.

Rhode Island—Dr. H. C. Bullard, of North Attleboro'.

Connecticut—Dr. J. L. Miller, of Sheffield.

New Jersey—Dr. J. C. Pennington, of Andover.

The following Committees were appointed:

To audit the Treasurer's Accounts—Drs. J. Stedman, R. T. Edes.

To examine the Library—Drs. O. F. Wadsworth, S. W. Langmaid.

To examine the By-Laws of District Societies—Drs. A. Hosmer, A. Miller, S. D. Presbrey.

The Committee on Membership reported through Dr. Ayer, and recommended that the following be allowed to resign:

Dr. Charles Foster, of Tewksbury.

Also, that the following be dropped, for five years' delinquency in assessments:

Dr. J. W. Pearson, of Lowell.

Also, that the following be dropped from the Roll of Fellows under By-Law VI., by removal from the State:

Drs. F. P. Biggs, of Valparaiso, Chili.
R. M. Carleton, of Stamford, Conn.
Jonas Clark, of San Francisco, Cal.
N. B. Colman, of Vassalboro', Me.
J. F. D'Avignon, of St. Louis, Mo.
R. Lopez.
J. C. Lyman, of San Francisco, Cal.
C. A. Peabody, of Bombay, India.
E. M. Pease, of Micronesia, S. S. Isl.
N. P. Quint, of St. Louis, Mo.
E. S. Weston, of Williamsville, Vt.
C. M. Wilson, of Belding, Mich.

After some discussion the report of the Committee was accepted, and its recommendations were adopted.

The consideration of the reports of the Committee on the Code of Ethics having been assigned to this meeting, on motion, the majority and minority reports were taken from the table. Dr. Wellington moved that the majority report be adopted by the Councillors. After an animated discussion, the motion to adopt the majority report was not carried.

Dr. Clarke moved the adoption of the minority report. Carried.

A communication was presented from the Censors for the Suffolk District, in which they protested against the action of the Councillors at the last meeting instructing the Censors of the Massachusetts Medical Society "to admit women to examination for admission to the Society on the same conditions as men," unless the vote should be ratified by the Society, and stating that unless so ratified they should consider the vote "not binding, and its execution not in accordance with the custom or constitution of the Society."

After some discussion by Drs. Bronson and Reynolds, on motion of Dr. Pineo, it was

Voted,—That the Councillors reconsider their action at the last meeting directing the Censors to admit women to examination for admission to the Society.

At 1.50, P.M., the Councillors adjourned.

FRANCIS W. GOSS,
Recording Secretary.

Annual Meeting.

The Annual Meeting of the Councillors was held in the Hall of the Medical Library Association, No. 19 Boylston Place, Boston, on Tuesday, June 8, 1880, at 7 o'clock, P.M.

The President, Dr. G. H. Lyman, in the Chair.

The following Councillors were present:

Barnstable.
G. N. Munsell,
P. Pineo.

Berkshire.
C. T. Collins,
W. W. Leavitt.

Bristol North.
J. R. Bronson,
J. Murphy.

Bristol South.
G. T. Hough,
A. B. Paun.

Essex North.
W. Cogswell,
J. C. How,
O. S. Lovejoy,
G. W. Snow.

Essex South.
C. A. Carlton,
A. H. Johnson,
W. Neilson,
E. Newhall.

Franklin.
E. C. Coy,
A. C. Walker.

Hampden.
D. P. Smith.

Hampshire.
S. A. Fisk,
W. Lester.

Middlesex East.
W. S. Brown,
J. O. Dow,
F. Winsor.

Middlesex North.
M. G. Parker.

Middlesex South.
B. F. D. Adams,
A. H. Blanchard,
H. C. Chapin,
T. Crozier,
J. G. Dearborn,
J. L. Hildreth,
F. E. Porter,
L. L. Scammell,
E. H. Stevens,
J. F. Wakefield,
W. W. Wellington.

Norfolk.
W. P. Bolles,
H. P. Bowditch,
T. H. Dearing,
P. O'M. Edson,

W. S. Everett,
G. W. Fay,
J. S. Flint,
D. S. Fogg,
D. D. Gilbert,
J. H. Gilbert,
A. R. Holmes,
C. E. Stedman,
J. H. Streeter.

Plymouth.

Asa Millet,
A. E. Paine.

Suffolk.

S. L. Abbot,
J. Ayer,
H. H. A. Beach,
H. J. Bigelow,
C. J. Blake,
H. I. Bowditch,
S. Cabot,
D. W. Cheever,
O. W. Doe,
F. W. Draper,
R. H. Fitz,
C. F. Folsom,
S. A. Green,
D. H. Hayden,
R. M. Hodges,
C. D. Homans,
J. Homans,
W. Ingalls,
B. J. Jeffries,
F. I. Knight,
G. H. Lyman,
F. Minot,
F. E. Oliver,
J. P. Reynolds,
W. L. Richardson,
G. C. Shattuck,
D. H. Storer,
C. W. Swan,
O. F. Wadsworth,
C. E. Ware,
W. G. Wheeler,
J. C. White,
H. W. Williams.

Worcester.

G. E. Francis,
F. Kendrick,
W. H. Lincoln,
O. Martin,
J. M. Rice,
J. Sargent,
A. Wood.

Worcester North.

R. F. Andrews,
B. H. Hartwell,
G. Jewett,
J. P. Lynde,
Ira Russell.

Total, 96.

The record of the previous meeting was read and accepted.

The names of the Nominating Committee as chosen by the District Societies were read.

The Committee was composed as follows:

Drs. P. Pineo	Barnstable.
H. L. Sabin,	Berkshire.
J. R. Bronson,	Bristol North.
R. T. Davis,	Bristol South.
Wm. Cogswell,	Essex North.
A. H. Johnson,	Essex South.
A. C. Walker,	Franklin.
D. P. Smith,	Hampden.
S. A. Fisk,	Hampshire.
G. H. Pillsbury,	Middlesex North.
W. W. Wellington,	Middlesex South.
F. Winsor,	Middlesex East.
W. P. Bolles,	Norfolk.
A. Millet,	Plymouth.
H. W. Williams,	Suffolk.
J. Sargent,	Worcester.
I. Russell,	Worcester North.

In the absence of the members from Berkshire, Bristol South, and Middlesex North, Drs. Collins, Paun and Parker were substituted as their representatives respectively.

The Secretary read the names of seventy-nine new, and of thirty-three deceased Fellows.

The Treasurer, Dr. Draper, read his annual report.

The Auditing Committee reported that they found the accounts properly kept, the balances correct, and the securities of the Society on hand and in a safe place of deposit.

The Treasurer's report was thereupon accepted.

The Committee on Finances reported through Dr. Homans, and recommended that a dividend of $1200.00 be made from the funds in the hands of the Treasurer, to be distributed among the District Societies. Adopted.

The Committee on Membership and Resignations reported through Dr. Ayer, and recommended that the following be allowed to resign:

Drs. Albert F. Blaisdell, of Providence, R. I.
J. Russell Little, of Jamaica Plain.
Orrin G. Ross, of Revere.
John C. Cutler, of Japan.
James Howarth, of Andover.

Also, that the following be allowed to retire:

Drs. Cyrus Bell, of Feeding Hills.
Pliny Earle, of Northampton.
William A. Gordon, of Apponegansett.
George H. Nichols, of Boston.

Also, that the following surrender their Fellowship under By-Law VI., by removal from the State:

Drs. C. W. Brown, of Elmira, N. Y.
W. O. G. Springer, of Jacksonville, N. Y.

The above recommendations of the Committee were adopted.

Dr. Shattuck reported for the Committee on Publications.

In regard to the question which was referred to the Committee, of the substitution of the Boston Medical and Surgical Journal for Braithwaite's Retrospect for distribution to the members of the Society, he stated that a canvass of the Society showed five-eighths of the members to be opposed to the change.

In accordance with the vote of the Committee, he recommended that the proposed change be not made.

The report of the Committee was adopted.

Dr. Hosmer for the Committee on the By-Laws of District Societies, made a brief verbal report.

The Committee on the Library reported, through Dr. Wadsworth, who also read the Librarian's report.

The Committee on Nominations reported a list of Candidates for the offices of the Society for the ensuing year, and the same were duly elected by ballot.

President	Dr. Henry W. Williams.
Vice-President	Dr. Asa Millet.
Treasurer	Dr. F. W. Draper.
Corresponding Secretary . .	Dr. C. W. Swan.
Recording Secretary . . .	Dr. F. W. Goss.
Librarian	Dr. D. H. Hayden.

Dr. J. Collins Warren, of Boston, was chosen Orator, and

Dr. James C. White, of Boston, Anniversary Chairman for the next Annual Meeting, Dr. H. J. Bigelow having declined after election to the latter office.

Voted,—That the next Annual Meeting be held in Boston, on the second Wednesday in June, 1881.

On nomination by the President the following Standing Committees were appointed:

Of Arrangements.

C. J. Blake,	J. O. Green,	E. G. Cutler,
W. L. Richardson,	F. C. Shattuck,	E. H. Bradford.

On Publications.

G. C. Shattuck, R. M. Hodges, B. E. Cotting.

On Membership and Resignations.

J. Ayer, F. Minot, D. W. Cheever.

On Finances.

C. D. Homans, W. W. Wellington, G. J. Arnold.

To Procure Scientific Papers.

Calvin Ellis, F. K. Paddock, G. S. Stebbins,
J. R. Chadwick, R. H. Fitz.

On Ethics and Discipline.

R. L. Hodgdon, G. J. Townsend, G. E. Francis,
A. H. Johnson, C. Howe.

On motion of Dr. Jeffries it was

Voted,—That the Councillors recommend to the Committee of Arrangements to take into consideration at the next Annual Meeting an exposition of instruments, apparatus, etc., designed or invented by the members of the Society.

The President introduced the President-Elect, Dr. WILLIAMS, who made a brief response.

At 9.10, P.M., the Councillors adjourned to the house of the President, Dr. LYMAN, where they were hospitably entertained.

FRANCIS W. GOSS,
Recording Secretary.

Massachusetts Medical Society.

PROCEEDINGS OF THE SOCIETY.

ANNUAL MEETING.

First Day.

The Society met in Horticultural Hall, Boston, on Tuesday, June 8, 1880, at 12 o'clock, M.

The Vice-President, Dr. D. P. Smith, in the Chair.

The reading of papers was begun as follows:

I.—*Pneumonitis.* By Charles D. Hunking, M.D., of Haverhill. After the reading of the paper a discussion ensued, in which Drs. R. H. Fitz, C. T. Collins, I. Russell, C. C. Field, P. Pineo and F. C. Shattuck took part.

II.—*Pyæmia of Doubtful Origin; apparently Spontaneous.* By Charles H. Cook, M.D., of Natick. This paper was discussed by Dr. E. G. Cutler, and Dr. Caldwell, of Baltimore.

III.—*Antiseptic Treatment of Empyema.* By Arthur T. Cabot, M.D., of Boston.

At 2 o'clock, P.M., the Society adjourned until 3 o'clock, when the reading of papers was resumed as follows:

IV.—*Œdema of the Lungs, with Illustrative Cases.* By Henry F. Borden, M.D., of Brockton.

V.—*Bacteria, and their Relations to Disease.* By William F. Whitney, M.D., of Boston. Drs. A. T. Cabot and W. S. Bigelow made remarks upon this paper.

VI.—*Diphtheria, and the Resulting Paralysis.* By Andrew F. Reed, M.D., of Holyoke.

VII.—*Ambulatory Treatment of Hip-Disease.* By Charles P. Putnam, M.D., of Boston. Dr. E. H. Bradford assisted in the illustration of this paper by the exhibition of patients treated by himself.

Adjourned at 5.30, P.M.

FRANCIS W. GOSS,
Recording Secretary.

Second Day.

The Society met in Horticultural Hall, Boston, on Wednesday, June 9, 1880, at 9 o'clock, A.M., for the Anniversary exercises.

The President, Dr. G. H. Lyman, in the Chair.

The record of the last Annual Meeting was read and accepted.

The action of the Board of Trial in the case of Dr. Otis Fernald, of Haverhill, was confirmed, and it was

Voted,—That Otis Fernald, M.D., be and is expelled from his membership of the Massachusetts Medical Society.

The Secretary read the names of Fellows admitted since the last Annual Meeting, and of Fellows whose deaths had been reported.

Fellows admitted since June 10, 1879.

1880	Allen, Franklin Haley . .	Haverhill.
1879	Bailey, Herman Augustus .	Lanesboro'.
1880	Baker, Lucius Willard . .	Baldwinsville.
1880	Bell, Homer Simpson . .	Granby.
1880	Bennett, John Lang . .	Boston.
1879	Bennett, Luther William .	Boston.
1879	Bowers, Walter Prentice . .	Lancaster.

1880	Bowker, Adolphus Varion	Miller's Falls.
1880	Brissett, Henry Rupert	Lowell.
1880	Bullard, William Norton	Boston.
1880	Bushnell, Homer	North Adams.
1880	Chisholm, Adam Stuart Muir	Boston.
1879	Clark, Charles Lamb	Oxford.
1880	Clark, Julius Stimpson	Melrose.
1880	Cleaves, James Edwin	Medford.
1879	Clifford, Arthur	New Bedford.
1879	Cummings, Edwin Francis	Tewksbury.
1880	Davis, Samuel Thomas	Orleans.
1880	Davis, William	Medford.
1880	Dorcey, James Edmund	Boston.
1879	Durrell, Thomas Moulton	Somerville.
1879	Eaton, Wyllis Gilbert, Jr.	Lowell.
1880	Everett, Oliver Hurd	Worcester.
1880	Farlow, John Woodford	Boston.
1879	Flanders, Frank Byron	Lawrence.
1880	Fogg, Irving Sylvester	Baldwinsville.
1879	Galvin, George William	Boston.
1879	Gardner, Guy Hubbard	Marblehead.
1880	Garrigan, Thomas James	North Brookfield.
1879	Gaylord, Edward Everett	Northampton.
1880	Grout, Charles Henry	Webster.
1879	Heald, Joseph Berthelet	Westford.
1879	Heald, William Frederick	Pepperell.
1880	Hines, Francis Edward	Salem.
1880	Hobbs, Ezra Allen	South Framingham.
1880	Holbrook, William Edward	Three Rivers.
1879	Hooker, Charles Parker	Springfield.
1879	Hutchinson, Edwin Darius	Huntington.
1880	Jaques, Henry Percy	Boston.
1880	Johnson, Frederick William	Boston.
1880	Keating, James Edward	Natick.
1880	Keefe, Patrick Henry	Worcester.
1879	Knight, Harvey	Lowell.
1880	Kyle, Flavil Winslow	South Boston.
1880	Lane, Albert Clarence	Billerica.
1880	Langworthy, Frank Abner	Chelsea.
1880	Lynch, Edmund	Salem.
1879	MacKeen, Alfred Atwater	South Abington.
1880	Magee, John Augustine	Lawrence.
1879	Makechnie, Horace Perkins	West Somerville.
1880	Metivier, Moses Martin	Holyoke.
1880	Monks, George Howard	Boston.
1880	Mullen, Frances Henry	Boston.

1880	Ober, Charles Frederic	Lowell.
1880	Peckham, Cyrus Tracy	Boston.
1879	Peirce, James	Methuen.
1880	Pennington, John Condit	Andover.
1880	Perkins, Thomas Lyman	Salem.
1880	Phipps, Walter Andrus	Hopkinton.
1880	Peirce, Franklin Williams	Marston's Mills.
1880	Pratt, John Edward	Sandwich.
1879	Randall, James Monroe	Leominster.
1879	Richmond, George Barstow	Dighton.
1880	Ring, Frank Whitman	New York City.
1879	Rix, Frank Reader	Lowell.
1880	Robbins, Elliott Daniel	Boston.
1880	Sawyer, William Brewster	Easthampton.
1879	Schwab, Emanuel	South Boston.
1880	Standish, Myles	Cambridge.
1880	Stimson, John Woodbury	Lunenburg.
1880	Tobey, George Loring	Shrewsbury.
1880	Trow, Cornelius Gilman	Sunderland.
1880	Walton, George Lincoln	West Newton.
1879	Warren, Franklin Cooley, Jr.	Boston.
1879	Warren, Lewis Jonathan	Winchester.
1880	Williams, Harold	Boston.
1879	Woods, George Lyman	Springfield.
1879	Woodworth, Dwight Sidney	Fitchburg.
1880	Yale, Charles Henry	Granby.

Total, 79.

List of Deceased Fellows.

Admitted.	Name.	Residence.	Date of Death.	Age.
1851	Adams, Lucius Smith	St. Paul, Minn.	Mar. 2, 1880	76
1837	Bancroft, Amos Bigelow	Boston	Nov. 8, 1879	66
1841	Barton, Edward	Orange	May 7, 1880	74
1828	Boyden, Wyatt Clark	Beverly	Aug. 18, 1879	85
1826	Choate, George	Cambridge	June 4, 1880	83
1855	Clarke, Henry	Worcester	Apr. 17, 1880	55
1874	Colburn, Charles Henry	Hingham	May 15, 1880	37
1872	Fitzgerald, Edward	Salem	July 7, 1879	53
1820	Flint, Edward	Leicester	May 30, 1880	90
1879	Foster, William Hudson	Merrimac	Feb. 3, 1880	24
1834	Gray, Francis Henry	Boston	Feb. 6, 1880	66
1846	Hall, Adino Brackett	Boston	Apr. 21, 1880	60
1842	Heaton, George	Boston	July 1, 1879	70
1867	Hoyt, Alpheus Enos	Natick	Nov. 23, 1879	51
1879	Hubon, Peter Emmett	Worcester	Mar. 3, 1880	50
1867	Johnson, Henry	New Bedford	Apr. 19, 1880	47
1877	Lewis, Charles Ward	Minneapolis, Min	May 15, 1879	28
1874	McAllister, Thomas Savory	Amesbury	May 3, 1880	32
1876	McGrath, Eugene John	Fall River	Nov. 18, 1879	34
1854	Morse, James Richards	No. Cambridge.	Apr. 16, 1880	66
1879	Moseley, William Oxnard.	Boston	Aug. 14, 1879	30
1862	Ordway, John Pond	Boston	Apr. 27, 1880	56
1866	Pillsbury, Edward Liston.	Boston	May 31, 1880	36
1853	Rice, David	Leverett	Aug. 29, 1879	60
1867	Seavey, Oscar Fitzalan	Merrimac	June 12, 1879	47
1871	Smith, Cyrus Burnett	Granby	Sept. 8, 1879	40
1824	Smith, Jerome VanCrown'sd	New York City.	Aug. 20, 1879	79
1836	Stetson, James Aaron	Quincy	Mar. 15, 1880	78
1870	Sullivan, Alexis Joseph	Fall River	Dec. 6, 1879	40
1835	Talbot, Charles	Dighton	June 6, 1880	69
1865	Webster, Joseph	Acushnet	Apr. 16, 1880	39
1867	White, Robert, Jr.	New York City.	Feb. 25, 1880	32
1838	Wright, John Harvey	Boston	Dec. 26, 1879	64

Total, 33.

The Treasurer, Dr. Draper, read his annual report.

Dr. Shattuck, for the Committee on Publications, made the following report regarding the Society's Prize:

That no dissertation worthy of a prize has this year been received by the Committee.

Also that, while the Committee regret that more dissertations are not offered in competition for the Society's Prize, and that none of those received should have been deemed worthy of award, they desire to commend the general excellence of two dissertations presented—one entitled "Infantile Digestion," and the other "Experiments on Iron and Digitalis."

Papers were read as follows:

VIII.—*The Importance of Early Recognition of Ear Disease.* By J. Orne Green, M.D., of Boston. Dr. C. J. Blake made remarks upon this paper.

IX.—*Cape Cod as a Health Resort; and some Remarks pertaining to Sanitary Science.* By Peter Pineo, M.D., of Hyannis. This paper was discussed by Drs. H. I. Bowditch, W. M. Cornell and E. Cutter.

X.—*Litholapaxy.* By Henry J. Bigelow, M.D., of Boston.

The following Delegates from other State Medical Societies were introduced by the President:

New Hampshire.—Dr. F. A. Stillings.
Rhode Island.—Dr. G. A. Pike.
Connecticut.—Drs. N. Nickerson, F. M. Wilson.
New York.—Dr. L. H. White.
New Jersey.—Drs. D. C. English, T. Ryerson, C. F. Stillman.

Dr. Bronson offered the following:

Moved,—That when this meeting adjourn, it does so to meet at the place of Annual Meeting on Tuesday preceding the Annual Meeting of 1881, at 4 P.M.

After discussion, the motion of Dr. Bronson was adopted.

At 12 o'clock, the Annual Discourse was delivered by Dr. Thomas H. Gage, of Worcester.

At its close, the Society presented a vote of thanks to the Orator for his very able and interesting address.

The President introduced the President-elect, Dr. Henry W. Williams, of Boston, who responded briefly.

At 1.15, P.M., the Society adjourned to the Music Hall, where dinner was served to nearly seven hundred Fellows.

FRANCIS W. GOSS,
Recording Secretary.

TREASURER'S REPORT.

THE Treasurer begs leave to report that the receipts on the Society's account, during the year ending May 15, 1880, amounted to $8,136.89; that the expenditures were $6,892.94; and that the balance carried to the new year's account is $1,243.95.

The items of receipt and expenditure appear in the accompanying balance-sheet.

The Society's funded property is distributed as follows:

Shattuck Fund (invested in a Mass. Hospital Life Ins. Annuity Policy . .	$9,166.87
Phillips Fund (invested in United States four per cent. bonds) . . .	10,000.00
General Fund (invested in Mass. Hospital Life Ins. Annuity Policies) . .	11,253.30
Cotting Fund (on deposit in the Provident Institution for Savings . . .	1,000.00
The amount of the invested funds is	$31,420.17

In accordance with the order passed at the last annual meeting of the Councillors, a fire-proof safe of approved pattern was purchased in July, 1879, for the preservation of the manuscript records of the Society; by the courtesy of the executive officers of the Boston Medical Library Association, the safe has been placed in the basement of the Library building in a strongly-built alcove well adapted for its reception and protection, and the original records, with the many valuable manuscripts accumulated during the Society's century of existence, are now securely defended from injury.

Respectfully submitted,

F. W. DRAPER,
Treasurer.

BOSTON, MAY 15, 1880.

Dr. F. W. Draper, Treasurer, in Account with

Income.

Balance from last account		$1852 10
Assessments paid to the Treasurer		1380 00
Assessments collected by District Treasurers:—		
Barnstable	$88 00	
Berkshire	100 00	
Bristol North	120 00	
Bristol South	165 00	
Essex North	85 00	
Essex South	130 00	
Franklin	80 00	
Hampden	200 00	
Hampshire	160 00	
Middlesex East	15 00	
Middlesex North	35 00	
Middlesex South	20 00	
Norfolk	530 00	
Plymouth	30 00	
Suffolk	1440 00	
Worcester	415 00	
Worcester North	130 00	
		3743 00
Interest account:—		
General Fund	$450 12	
Shattuck Fund	366 67	
Phillips Fund	300 00	
Cotting Fund	40 00	
		1156 79
Diplomas		5 00
		$8136 89

the Massachusetts Medical Society. Cr.

Expenses.

On account of the Committee of Arrangements for the Annual Meeting, 1879:—		
Caterer's Bill	$1125 00	
Cigars	80 00	
Horticultural Hall	150 00	
Incidentals	22 40	
Music	115 00	
Music Hall	204 00	
Printing	10 50	
		$1706 90
Committee on Publications:—		
Braithwaite's Retrospect	1772 50	
Printing annual publications	223 81	
		1996 31
Committee on Code of Ethics (printing)		31 25
Committee on Pharmacopœia (clerk hire)		1 60
Councillor's Orders:—		
Exchange of United States Bonds	12 50	
Fire-proof safe	170 50	
Lunches at Stated Meetings	131 20	
Printing Code of Ethics	11 25	
		325 45
District Societies' Account:—		
Advertising Censors' Meetings	7 00	
Censors' Fees	201 00	
Dividend of 1879	1385 80	
Treasurers' Fees	210 19	
		1803 99
Librarian's Expenses:—		
Clerk	50 00	
Postage	214 63	
Printing	7 75	
		272 38
Recording Secretary's Expenses:—		
Incidentals	5 00	
Postage	53 81	
Printing	55 50	
		114 31
Rent		150 00
On Treasurer's Account:—		
Incidentals, Legal Fees, &c.	34 30	
Postage	17 75	
Printing	16 25	
Salary	400 00	
		468 30
Trial Commissioners' Fees		22 45
		6892 94
Balance to new account,		1243 95
		$8,136 89

Officers of the Massachusetts Medical Society.

1880–81.

Chosen June 8, 1880.

HENRY W. WILLIAMS,	Boston,	President.
ASA MILLET,	E. Bridgewater,	Vice President.
FRANK W. DRAPER,	Boston,	Treasurer.
CHARLES W. SWAN,	Boston,	Cor. Secretary.
FRANCIS W. GOSS,	Roxbury,	Rec. Secretary.
DAVID H. HAYDEN,	Boston,	Librarian.
J. COLLINS WARREN,	Boston,	Orator.
JAMES C. WHITE,	Boston,	Anniv. Chairman.

Standing Committees.

Of Arrangements.

C. J. Blake, F. C. Shattuck,
W. L. Richardson, E. G. Cutler,
J. O. Green, E. H. Bradford.

On Publications.

G. C. Shattuck, R. M. Hodges, B. E. Cotting.

On Membership and Resignations.

J. Ayer, F. Minot, D. W. Cheever.

On Finances.

C. D. Homans, W. W. Wellington, G. J. Arnold.

To Procure Scientific Papers.

Calvin Ellis, F. K. Paddock, G. S. Stebbins,
J. R. Chadwick, R. H. Fitz.

On Ethics and Discipline.

R. L. Hodgdon, G. J. Townsend, G. E. Francis,
A. H. Johnson, C. Howe.

Presidents of District Societies—Vice-Presidents (Ex-Officiis).

[Arranged according to Seniority.]

C. Ellis,
E. P. Abbe,
J. Crowell,
A. Hosmer,
J. W. Goodell,
E. J. Sawyer,
A. N. Allen,
E. Warner,
G. E. Pinkham,
R. Amory,
H. Gamwell,
W. R. Howes,
B. D. Gifford,
J. B. Learned,
H. C. Bullard,
F. J. Canedy,
D. W. Wight.

Councillors.

Barnstable.—Drs. J. Leonard, Sandwich; G. N. Munsell, Harwich; P. Pineo, Hyannis; W. N. Stone, Wellfleet.

Berkshire.—Drs. J. F. A. Adams, Pittsfield; C. T. Collins, Great Barrington; W. W. Leavitt, West Stockbridge; H. L. Sabin, Andrew M. Smith, Williamstown.

Bristol North.—Drs. J. R. Bronson, Attleboro'; J. Murphy, S. D. Presbrey, Taunton.

Bristol South.—Drs. S. W. Bowen, R. T. Davis, Fall River; G. T. Hough, New Bedford; E. T. Learned, Fall River; J. H. Mackie, New Bedford; A. B. Paun, Middleboro'.

Essex North.—Drs. W. Cogswell, Bradford; D. Dana, Lawrence; J. C. How, Haverhill; W. H. Kimball, Andover; O. S. Lovejoy, Haverhill; R. B. Root, Georgetown; G. W. Sargent, Lawrence; G. W. Snow, Newburyport.

Essex South.—Drs. C. A. Carlton, A. H. Johnson, Salem; J. D. Lovering, Essex; W. Neilson, Salem; E. Newhall, Lynn; G. S. Osborne, Peabody; J. G. Pinkham, Lynn; G. A. Priest, Manchester.

Franklin.—Drs. E. C. Coy, Montague City; C. E. Severance, Shelburne Falls; A. C. Walker, Greenfield.

Hampden.—T. L. Chapman, Longmeadow; E. L. Draper, Holyoke; V. L. Owen, D. P. Smith, G. S. Stebbins, P. LeB. Stickney, Springfield.

Hampshire.—Drs. J. Dunlap, S. A. Fisk, Northampton; W. Lester, South Hadley; D. Pickard, Northampton.

Middlesex East.—Drs. W. S. Brown, Stoneham; J. O. Dow, Reading; F. Winsor, Winchester.

Middlesex North.—Drs. W. Bass, C. M. Fisk, L. S. Fox, A. W. Lavigne, W. H. Leighton, M. G. Parker, G. H. Pillsbury, H. J. Smith, Lowell.

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Plymouth.—Drs. J. B. Brewster, Plymouth; N. P. Brownell, South Scituate; J. C. Gleason, Rockland; A. Millet, East Bridgewater, *Vice-President;* A. E. Paine, Brockton.

Suffolk.—Drs. S. L. Abbot, J. Ayer, H. H. A. Beach, H. J. Bigelow, C. J. Blake, H. I. Bowditch, S. Cabot, D. W. Cheever, H. Curtis, H. Derby, O. W. Doe, F. W. Draper, *Treasurer*, C. Ellis, R. H. Fitz, C. F. Folsom, J. O. Green, S. A. Green, F. B. Greenough, D. H. Hayden, *Librarian*, R. M. Hodges, C. D. Homans, J. Homans, W. Ingalls, B. J. Jeffries, F. I. Knight, G. H. Lyman, F. Minot, F. E. Oliver, J. P. Reynolds, W. L. Richardson, G. C. Shattuck, A. D. Sinclair, D. H. Storer, C. W. Swan, *Corresponding Secretary*, G. G. Tarbell, O. F. Wadsworth, C. E. Ware, J. C. Warren, Boston; W. G. Wheeler, Chelsea; J. C. White, H. W. Williams, *President*, Boston.

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Worcester North.—Drs. R. F. Andrews, Gardner; B. H. Hartwell, Ayer; G. Jewett, Fitchburg; J. P. Lynde, Athol; I. Russell, Winchendon.

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Bristol North.—Drs. E. J. Bassett, J. P. Brown, C. Howe, N. Paige, S. D. Presbrey, Taunton.

Bristol South.—Drs. J. Dwelly, Fall River; S. W. Hayes, A. M. Pierce, W. H. Taylor, New Bedford; J. B. Whitaker, Fall River.

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Essex South.—Drs. D. M. Elliot, Peabody; T. Kittredge, Salem; C. S. May, Danvers; C. C. Sheldon, Lynn; A. M. Tupper, Rockport.

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Hampshire.—Drs. C. M. Barton, Hatfield; E. E. Gaylord, Northampton; J. R. Greenleaf, Haydenville; E. B. Nims, A. W. Thompson, Northampton.

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Middlesex North.—Drs. F. W. Chadbourne, W. M. Hoar, J. C. Irish, Lowell; W. H. Lathrop, Tewksbury; F. Nickerson, Lowell.

Middlesex South.—Drs. E. R. Cutler, Waltham; M. A. Morris, Charlestown; A. L. Norris, East Cambridge; L. R. Stone, Newton; C. E. Spring, Holliston.

Norfolk.—Drs. A. H. Nichols, Roxbury; E. D. Peters, O. F. Rogers, Dorchester; G. K. Sabine, Brookline; E. T. Williams, Roxbury.

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Worcester.—Drs. G. J. Bull, W. Davis, Worcester; J. W. Hastings, Warren; D. W. Hodgkins, East Brookfield; W. H. Workman, Worcester.

Worcester North.—Drs. J. M. Blood, Ashby; G. D. Colony, Fitchburg; C. C. Field, G. W. Pierce, Leominster; E. J. Sawyer, Gardner.

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Bristol North . .	N. Paige	Taunton.
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Essex North . .	S. K. Towle . . .	Haverhill.
Essex South . . .	E. Newhall . . .	Lynn.
Franklin	C. L. Fisk	Greenfield.
Hampden	C. Bell	Feeding Hills.
Hampshire	W. M. Trow . . .	Easthampton.
Middlesex East .	F. F. Brown . . .	Reading.
Middlesex North .	N. Allen	Lowell.

Middlesex South .	Z. B. Adams . . .	Framingham.
Norfolk	J. Morison . . .	Quincy.
Plymouth	H. Shurtleff . . .	Campello.
Suffolk	C. W. Swan . . .	Boston.
Worcester . . .	A. M. Orcutt . . .	Hardwick.
Worcester North .	C. C. Field . . .	Leominster.

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Worcester North.—Dr. E. J. Sawyer, Gardner, *President;* Dr. J. P. Lynde, Athol, *Vice-President;* Dr. F. W. Russell, Winchendon, *Secretary;* Dr. E. P. Miller, Fitchburg, *Treasurer;* Dr. C. H. Rice, Fitchburg, *Librarian.*

APPENDIX TO CATALOGUE OF 1878.

Fellows admitted since June 10, 1879.

1880	Allen, Franklin Haley	Haverhill.
1879	Bailey, Herman Augustus	Lanesboro'.
1880	Baker, Lucius Willard	Baldwinsville.
1880	Bell, Homer Simpson	Granby.
1880	Bennett, John Lang	Boston.
1879	Bennett, Luther William	Boston.
1879	Bowers, Walter Prentice	Lancaster.
1880	Bowker, Adolphus Varion	Miller's Falls.
1880	Brissett, Henry Rupert	Lowell.
1880	Bullard, William Norton	Boston.
1880	Bushnell, Homer	North Adams.
1880	Chisholm, Adam Stuart Muir	Boston.
1879	Clark, Charles Lamb	Oxford.
1880	Clark, Julius Stimpson	Melrose.
1880	Cleaves, James Edwin	Medford.
1879	Clifford, Arthur	New Bedford.
1879	Cummings, Edwin Francis	Tewksbury.
1880	Davis, Samuel Thomas	Orleans.
1880	Davis, William	Medford.
1880	Dorcey, James Edmund	Boston.
1879	Durrell, Thomas Moulton	Somerville.
1879	Eaton, Wyllis Gilbert, Jr.	Lowell.
1880	Everett, Oliver Hurd	Worcester.
1880	Farlow, John Woodford	Boston.
1879	Flanders, Frank Byron	Lawrence.
1880	Fogg, Irving Sylvester	Baldwinsville.
1879	Galvin, George William	Boston.
1879	Gardner, Guy Hubbard	Marblehead.
1880	Garrigan, Thomas James	North Brookfield.
1879	Gaylord, Edward Everett	Northampton.
1880	Grout, Charles Henry	Webster.
1879	Heald, Joseph Berthelet	Westford.
1879	Heald, William Frederick	Pepperell.
1880	Hines, Francis Edward	Salem.
1880	Hobbs, Ezra Allen	South Framingham.
1880	Holbrook, William Edward	Three Rivers.
1879	Hooker, Charles Parker	Springfield.
1879	Hutchinson, Edwin Darius	Huntington.
1880	Jaques, Henry Percy	Boston.

1880	Johnson, Frederick William	Boston.
1880	Keating, James Edward	Natick.
1880	Keefe, Patrick Henry	Worcester.
1879	Knight, Harvey	Lowell.
1880	Kyle, Flavil Winslow	South Boston.
1880	Lane, Albert Clarence	Billerica.
1880	Langworthy, Frank Abner	Chelsea.
1880	Lynch, Edmund	Salem.
1879	MacKeen, Alfred Atwater	South Abington.
1880	Magee, John Augustine	Lawrence.
1879	Makechnie, Horace Perkins	West Somerville.
1880	Metivier, Moses Martin	Holyoke.
1880	Monks, George Howard	Boston.
1880	Mullen, Frances Henry	Boston.
1880	Ober, Charles Frederic	Lowell.
1880	Peckham, Cyrus Tracy	Boston.
1879	Peirce, James	Methuen.
1880	Pennington, John Condit	Andover.
1880	Perkins, Thomas Lyman	Salem.
1880	Phipps, Walter Andrus	Hopkinton.
1880	Peirce, Franklin Williams	Marston's Mills.
1880	Pratt, John Edward	Sandwich.
1879	Randall, James Monroe	Leominster.
1879	Richmond, George Barstow	Dighton.
1880	Ring, Frank Whitman	New York City.
1879	Rix, Frank Reader	Lowell.
1880	Robbins, Elliott Daniel	Boston.
1880	Sawyer, William Brewster	Easthampton.
1879	Schwab, Emanuel	South Boston.
1880	Standish, Myles	Cambridge.
1880	Stimson, John Woodbury	Lunenburg.
1880	Tobey, George Loring	Shrewsbury.
1880	Trow, Cornelius Gilman	Sunderland.
1880	Walton, George Lincoln	West Newton.
1879	Warren, Franklin Cooley, Jr.	Boston.
1879	Warren, Lewis Jonathan	Winchester.
1880	Williams, Harold	Boston.
1879	Woods, George Lyman	Springfield.
1879	Woodworth, Dwight Sidney	Fitchburg.
1880	Yale, Charles Henry	Granby.

List of Deceased Fellows.

Admitted.	Name.	Residence.	Date of Death.	Age.
1851	Adams, Lucius Smith.....	St. Paul, Minn..	Mar. 2, 1880	76
1837	Bancroft. Amos Bigelow..	Boston.....	Nov. 8, 1879	66
1841	Barton, Edward.....	Orange	May 7, 1880	74
1828	Boyden, Wyatt Clark.....	Beverly.....	Aug. 18, 1879	85
1826	Choate, George.....	Cambridge.....	June 4, 1880	83
1855	Clarke, Henry.....	Worcester.....	Apr. 17, 1880	55
1874	Colburn, Charles Henry..	Hingham	May 15, 1880	37
1872	Fitzgerald, Edward.....	Salem	July 7, 1879	53
1820	Flint, Edward.....	Leicester.....	May 30, 1880	90
1879	Foster, William Hudson..	Merrimac.....	Feb. 3, 1880	24
1834	Gray, Francis Henry.....	Boston.....	Feb. 6, 1880	66
1846	Hall, Adino Brackett....	Boston.....	Apr. 21, 1880	60
1842	Heaton, George.....	Boston.....	July 1, 1879	70
1867	Hoyt, Alpheus Enos.....	Natick.....	Nov. 23, 1879	51
1879	Hubon, Peter Emmett.....	Worcester.....	Mar. 3, 1880	50
1867	Johnson, Henry.....	New Bedford...	Apr. 19, 1880	47
1877	Lewis, Charles Ward.....	Minneapolis, Min	May 15, 1879	28
1874	McAllister, Thomas Savory	Amesbury.....	May 3, 1880	32
1876	McGrath, Eugene John...	Fall River.....	Nov. 18, 1879	34
1854	Morse, James Richards....	No. Cambridge.	Apr. 16, 1880	66
1879	Moseley, William Oxnard.	Boston.....	Aug. 14, 1879	30
1862	Ordway, John Pond.....	Boston.....	Apr. 27, 1880	56
1866	Pillsbury, Edward Liston.	Boston.....	May 31, 1880	36
1853	Rice, David.....	Leverett.....	Aug. 29, 1879	60
1867	Seavey, Oscar Fitzalan...	Merrimac.....	June 12, 1879	47
1871	Smith, Cyrus Burnett	Granby.....	Sept. 8, 1879	40
1824	Smith, Jerome VanCrown'sd	New York City.	Aug. 20, 1879	79
1836	Stetson, James Aaron.....	Quincy.....	Mar. 15, 1880	78
1870	Sullivan, Alexis Joseph...	Fall River.....	Dec. 6, 1879	40
1835	Talbot, Charles.....	Dighton.....	June 6, 1880	69
1865	Webster, Joseph.....	Acushnet.....	Apr. 16, 1880	39
1867	White, Robert, Jr.....	New York City.	Feb. 25, 1880	32
1838	Wright, John Harvey.....	Boston	Dec. 26, 1879	64

The following have been restored to Fellowship:

1879. Asahel Sumner Deane, of Taunton.
1879. Herbert Warren, of Worcester.

The following have been allowed to resign:

Albert F. Blaisdell, of Providence, R. I.
John C. Cutler, of Japan.
Charles Foster, of Tewksbury.
Otis F. Ham, of Centre Barnstead, N. H.
James Howarth, of Andover.
J. Russell Little, of Jamaica Plain.
Orrin G. Ross, of Revere.

The following have been allowed to retire:

Cyrus Bell, of Feeding Hills.
Pliny Earle, of Northampton.
William A. Gordon, of Apponegansett.
John L. Miller, of Sheffield,
William Mason, of Charlestown.
George H. Nichols, of Boston.

The following has been dropped from the Roll of Fellows for five years' delinquency in assessments:

J. W. Pearson, of Lowell.

The following have surrendered their Fellowship under By-Law VI., by removal from the State:

F. P. Biggs, of Valparaiso, Chili.
C. W. Brown, of Elmira, N. Y.
R. M. Carleton, of Stamford, Conn.
Jonas Clark, of San Francisco, Cal.
N. B. Colman, of Vassalboro', Me.
F. F. D'Avignon, of St. Louis, Mo.
R. Lopez.
William H. Hills, of San Antonio, Texas.
J. C. Lyman, of San Francisco, Cal.
C. A. Peabody, of Bombay, India.
E. M. Pease, of Micronesia, S. S. Isl.
N. P. Quint, of St. Louis, Mo.
W. O. G. Springer, of Jacksonville, N. Y.
E. S. Weston, of Williamsville, Vt.
C. M. Wilson, of Belding, Mich.

Massachusetts Medical Society.

PROCEEDINGS OF THE COUNCILLORS.

October 6, 1880.

A Stated Meeting of the Councillors was held in the Hall of the Medical Library Association, No. 19 Boylston Place, Boston, on Wednesday, October 6, 1880, at 11 o'clock, A. M.

The President, Dr. H. W. Williams, in the Chair.

The following Councillors were present:

Barnstable.
P. Pineo.

Bristol North.
J. R. Bronson,
J. Murphy.

Bristol South.
J. H. Mackie,
A. B. Paun.

Essex North.
W. Cogswell,
D. Dana,
O. S. Lovejoy,
G. W. Snow.

Essex South.
J. D. Lovering,
W. Neilson,
E. Newhall,
G. S. Osborne,
G. A. Priest.

Franklin.
E. C. Coy.

Middlesex East.
W. S. Brown,
J. O. Dow.

Middlesex North.
C. M. Fisk,
A. W. Lavigne,
W. H. Leighton.

Middlesex South.
A. H. Blanchard,
H. C. Chapin,
H. Cowles,
T. Crozier,
J. A. Dow,
O. E. Hunt,
F. E. Porter,
J. F. Wakefield,
W. W. Wellington,
R. Willis.

Norfolk.
H. P. Bowditch,
T. H. Dearing,
W. S. Everett,
G. W. Fay,
J. S. Flint,
D. D. Gilbert,
J. H. Gilbert,
A. R. Holmes,
J. H. Streeter.

Plymouth.
J. B. Brewster,
N. P. Brownell,
Asa Millet,

A. E. Paine.

Suffolk.

J. Ayer,
H. H. A. Beach,
H. J. Bigelow,
H. Curtis,
O. W. Doe,
F. W. Draper,
R. H. Fitz,
C. F. Folsom,
S. A. Green,
F. B. Greenough,
D. H. Hayden,
R. M. Hodges,
F. Minot,
J. P. Reynolds,
W. L. Richardson,
D. H. Storer,
C. W. Swan,
G. G. Tarbell,
O. F. Wadsworth,
H. W. Williams.

Worcester.

F. D. Brown,
W. Tyler.

Worcester North.

B. H. Hartwell,
G. Jewett,
Ira Russell.

Total, 68.

The record of the previous meeting was read and accepted.

On nomination by the President, the following were appointed delegates to attend the meetings of other State Medical Societies:

Vermont.—Drs. S. A. Fisk, of Northampton; J. F. A. Adams, of Pittsfield.

New York.—Drs. C. T. Collins, of Great Barrington; S. D. Presbrey, of Taunton.

The Committee on Membership and Resignations reported through Dr. Ayer, and recommended that the following be allowed to retire:

Dr. Herman E. Davidson, of Washington, D. C.

Also, that the following surrender Fellowship on account of removal from the State:

Drs. Barnard D. Eastman, of Topeka, Ka.
William D. Robertson, of Stanstead, Conn.
Reed L. Bell, of Springfield, O.
Charles W. Fitch, of San Francisco, Cal.
John G. Stanton, of New London, Conn.

The above recommendations of the Committee were adopted.

The Committee also reported in favor of the following, who were nominated at the last meeting for Honorary Membership, and the same were elected by ballot:

Aristide Aug. N. Verneuil, of Paris, France.
Fordyce Barker, M.D., of New York City.

In accordance with the recommendations of Committees appointed at the last meeting, the following were restored to Fellowship:

Drs. William Holbrook, of Palmer.
Charles Augustus Peabody, of Worcester.

A resolution passed by the Norfolk District Medical Society was read, stating that in the opinion of that Society the present treatment of the insane by the public authorities, immediately prior to their legal commitment to an insane asylum, deserves a very searching investigation, and reporting this subject as worthy the consideration of the Massachusetts Medical Society, either in its corporate capacity or by some competent committee of its Councillors.

After discussion, it was

Voted,—That a Committee of five be appointed to report upon the above questions.

The following were appointed to constitute the Committee:—Drs. B. Cushing, I. Russell, A. Hosmer, H. H. A. Beach, C. F. Folsom.

At 11.30, A. M., the Councillors adjourned.

FRANCIS W. GOSS,
Recording Secretary.

Stated Meeting.

A Stated Meeting of the Councillors was held in the Hall of the Medical Library Association, No. 19 Boylston Place, Boston, on Wednesday, February 2, 1881, at 11 o'clock, A. M.

The President, Dr. H. W. Williams, in the Chair.

The following Councillors were present:

Barnstable.
P. Pineo.

Bristol South.
A. B. Paun.

Essex North.
D. Dana,
O. S. Lovejoy.

Essex South.
A. H. Johnson,
W. Neilson.

Middlesex East.
W. S. Brown,
J. O. Dow.

Middlesex North.
W. Bass.

Middlesex South.
A. H. Blanchard,
H. C. Chapin,
T. Crozier,
J. G. Dearborn,
E. H. Stevens,
C. E. Vaughan,
W. W. Wellington.

Norfolk.
H. P. Bowditch,
T. H. Dearing,
W. S. Everett,
G. W. Fay,
J. S. Flint,
D. S. Fogg,
D. D. Gilbert,
J. H. Gilbert,
A. R. Holmes,
C. E. Stedman,
J. H. Streeter.

Plymouth.
N. P. Brownell,
Asa Millet,
A. E. Paine.

Suffolk.
S. L. Abbot,
J. Ayer,
H. H. A. Beach,
H. J. Bigelow,
C. J. Blake,
H. I. Bowditch,
D. W. Cheever,
H. Curtis,
F. W. Draper,
C. F. Folsom,
J. O. Green,
S. A. Green,
F. B. Greenough,
D. H. Hayden,
R. M. Hodges,
C. D. Homans,
J. Homans,
B. J. Jeffries,
F. I. Knight,
G. H. Lyman,
F. Minot,
F. E. Oliver,
W. L. Richardson,
G. C. Shattuck,
A. D. Sinclair,
D. H. Storer,
C. W. Swan,
G. G. Tarbell,
C. E. Ware,
J. C. Warren,
J. C. White,
H. W. Williams.

Worcester.
G. E. Francis,
W. H. Lincoln,
W. Peirce.

Worcester North.
Ira Russell.

Total, 66.

The record of the previous meeting was read and accepted.

On nomination, by the President, the following were appointed delegates to the meetings of other State Medical Societies:

Maine.—Drs. J. Crowell, of Haverhill; W. B. Mackie, of Boston.

New Hampshire.—Drs. G. W. Snow, of Newburyport; D. M. Edgerley, of Cambridgeport.

Rhode Island.—Drs. J. H. Goodell, of Lynn; T. H. Dearing, of Braintree.

Connecticut.—Drs. J. Stedman, of Jamaica Plain; H. F. Borden, of Brockton.

New Jersey.—Drs. N. S. Babbitt, of North Adams; F. J. Canedy, of Shelburne Falls.

The following Committees were appointed:

To audit the Treasurer's Accounts.—Drs. R. T. Edes, B. S. Shaw.

To examine the Library.—Drs. S. W. Langmaid, T. M. Rotch.

To examine the By-Laws of District Societies.—Drs. A. Hosmer, A. Millet, S. D. Presbrey.

The Committee on Membership and Resignations reported through Dr. Ayer, and recommended that the following be allowed to retire:

Drs. Howland Holmes, of Lexington.
Henry N. Jones, of Kingston.

Also, that the following be dropped from the roll of Fellows, for five years' delinquency in assessments:

Dr. Benjamin H. Mann, of Roxbury.

The Committee appointed to consider the subject of the Commitment of the Insane, reported through its chairman, Dr. Cushing, and recommended an act to substitute that now in force regulating the commitment of lunatics to asylums.

After discussion, the report was accepted, and its recommendations were adopted.

Voted,—That the same Committee, together with the President of the Society, be requested to appear before the Legislature and urge the adoption of the act reported as above.

A communication was read from the Censors for the Suffolk District, petitioning the Councillors to take some action to secure a uniformly good standard of admission to the Society.

Voted,—That Drs. Hosmer, Paddock, Nickerson, Bradford and Dudley be a committee to consider the petition, and report to the Councillors at a subsequent meeting.

The Treasurer stated that the Society had received from the estate of the late Dr. Clough, of Woburn, one hundred

dollars, to be expended in accordance with the provisions of Dr. Clough's will, " for three of the best papers on the treatment of disease by moral management *versus* drugs or medicine—in the following manner, viz.: fifty dollars for the best paper, thirty dollars for the second best, twenty dollars for the third best. The judges of the three papers to be Doctors H. J. Bigelow, Calvin Ellis, and J. M. Harlow."

On motion of Dr. Draper, it was

Voted,—That the Massachusetts Medical Society, by its Councillors, accepts with gratitude the bequest of one hundred dollars from the late Dr. John Clough, upon the conditions set forth in the will of the donor; and that the Recording Secretary be requested to announce in the next number of the Society's printed Transactions that competition is invited for the prizes provided in this donation.

Dr. Bowditch offered the following:

Voted,—That the Councillors recommend that the Censors of the Society should be directed to examine women for admission to the Society upon the same terms now required of men.

Voted,—That the Secretary is hereby directed to present the above vote to the Society at its next annual meeting for action thereupon.

Voted,—That the resolutions be laid on the table.

At 12.45, P. M., the Councillors adjourned.

FRANCIS W. GOSS,
Recording Secretary.

Annual Meeting.

The Annual Meeting of the Councillors was held in the Hall of the Medical Library Association, No. 19 Boylston Place, Boston, on Tuesday, June 7, 1881, at 7 o'clock, P. M.

The President, Dr. H. W. Williams, in the Chair.

The following Councillors were present:

Barnstable.
C. M. Hulbert,
G. N. Munsell,
P. Pineo.

Berkshire.
C. W. Burton,
L. Miller.

Bristol North.
S. D. Presbrey.

Bristol South.
E. P. Abbé,
S. W. Bowen,
R. T. Davis,
G. T. Hough,
E. T. Learned,
A. B. Paun.

Essex North.
W. Cogswell,
G. W. Snow.

Essex South.
J. Allen,
C. A. Carlton,
H. Coleman,
A. H. Johnson,
E. Newhall,
G. S. Osborne.

Franklin.
C. M. Duncan.

Hampden.
T. F. Breck,
T. L. Chapman,
G. E. Fuller,
G. C. McClean,
D. H. Nutting.

Hampshire.
W. M. Trow.

Middlesex East.
F. F. Brown,
J. M. Harlow.

Middlesex South.
B. F. D. Adams,
A. H. Blanchard,
T. Crozier,
J. G. Dearborn,
R. L. Hodgdon,
H. Holmes,
E. H. Stevens,
L. R. Stone,
G. J. Townsend,
C. E. Vaughan,
W. W. Wellington,
M. Wyman.

Norfolk.
R. Amory,
G. A. Bragdon,
B. Cushing,
W. S. Everett,
G. W. Fay,
J. S. Flint,
J. H. Gilbert,
J. S. Greene,
A. R. Holmes,
H. G. Morse,
J. H. Streeter,
U. O. B. Wingate,
J. A. Winkler.

Plymouth.
J. C. Gleason,
Asa Millet,
A. E. Paine.

Suffolk.
S. L. Abbot,
J. Ayer,
H. H. A. Beach,
C. J. Blake,
H. I. Bowditch,
S. Cabot,
D. W. Cheever,
O. W. Doe,
F. W. Draper,
R. H. Fitz,
C. F. Folsom,
S. A. Green,
W. H. H. Hastings,
D. H. Hayden,
C. D. Homans,
J. Homans,
W. Ingalls,
B. J. Jeffries,
S. W. Langmaid,
G. H. Lyman,
F. Minot,
J. P. Reynolds,
W. L. Richardson,
G. C. Shattuck,
A. D. Sinclair,
D. H. Storer,
A. M. Sumner,
C. W. Swan,
G. G. Tarbell,
O. F. Wadsworth,
W. G. Wheeler,
H. W. Williams.

Worcester.
A. G. Blodgett,
W. P. Bowers,
G. E. Francis,
T. H. Gage,
O. Martin,
J. M. Rice,
J. Sargent.

Worcester North.
R. F. Andrews,
G. Jewett,
Ira Russell.

Total, 99.

The record of the previous meeting was read and accepted.

The names of the Nominating Committee, as chosen by the District Societies, were read.

The Committee was composed as follows:

Drs.	P. Pineo,	Barnstable.
	H. L. Sabin,	Berkshire.
	S. D. Presbrey,	Bristol North.
	R. T. Davis,	Bristol South.
	W. Cogswell,	Essex North.
	C. A. Carlton,	Essex South.
	C. M. Duncan,	Franklin.
	T. F. Breck,	Hampden.
	A. W. Thompson,	Hampshire.
	G. H. Pillsbury,	Middlesex North.
	M. Wyman,	Middlesex South.
	J. M. Harlow,	Middlesex East.
	J. S. Flint,	Norfolk.
	J. C. Gleason,	Plymouth.
	G. C. Shattuck,	Suffolk.
	T. H. Gage,	Worcester.
	G. Jewett,	Worcester North.

In the absence of the members from Barnstable, Berkshire, Hampshire and Worcester North, Drs. Hulbert, Miller, Trow and Russell were substituted as their respective representatives.

The Secretary read the names of new and deceased Fellows.

The Treasurer, Dr. Draper, read his annual report.

The Auditing Committee reported that they found the accounts properly vouched and correctly cast.

The Treasurer's report was then accepted.

The Committee on Finances reported through Dr. Homans, and recommended that $1,388.92, being ninety per cent. of the balance remaining in the treasury, be distributed among the several District Societies.—Adopted.

The Committee on Membership and Resignations reported through Dr. Ayer, and recommended that the following be allowed to resign:

Drs. Lanora Foster, of Boston.
T. H. Manley, of New York City.
C. W. Page, of Hartford, Conn.
H. H. Pillsbury, of Brooklyn, N. Y.
J. E. Sanborn, of Rockport.

Also, that the following be allowed to retire:

Drs. G. Atwood, of Fairhaven.
S. Drinkwater, of Haverhill.
J. N. Bates, of Worcester.
S. D. Brooks, of Springfield.
G. Hubbard, of Boston.
J. Mann, of Boston.
J. W. D. Osgood, of Greenfield.
J. Stetson, of West Harwich.
J. Spare, of New Bedford.
C. L. Swasey, of New Bedford.
G. W. Ward, of Upton.
H. Wheatland, of Salem.

Also, that the following be dropped from the roll of Fellows on account of non-residence:

Drs. Eugene Howard, of Burlington, Vt.
J. F. Hurley, of Newport, R. I.
C. R. J. Kellam, of St. Charles, Minn.
W. Kranichfeld, of Germany.
T. J. O'Sullivan, of Burlington, Conn.
V. P. Dillon, of Ireland.
J. E. Weaver, of Elmira, N. Y.

The above recommendations of the Committee were adopted.

The Committee also recommended for Honorary Membership the following, nominated at the last meeting, and the same were duly elected by ballot:

William Bowman, F.R.S., of London, England.
Prof. Franz Cornelius Donders, of Utrecht, Holland.
George Rolleston, M.D., of Oxford, England.
Sampson Gamgee, F.R.S.E., of Birmingham, England.

The Committee on Publications reported through Dr. Shattuck. Their report stated that no essays had been presented, during the past year, in competition for the Society's Prize.

The Committee on By-Laws of the District Societies reported through Dr. Hosmer.

The Committee on the Library reported through Dr. Langmaid, who also read the Librarian's report.

Dr. Cushing reported for the Committee which was appointed to appear before the Legislature to urge the passage of the act regarding the commitment of the insane. He stated that an act had been passed, which, though a gain on the one previously existing, was quite different from that proposed by the Committee, and was open to so many objections that the profession ought to endeavor to have the law still further modified.

Voted,—That the subject be recommitted to the same Committee to take such action as they see fit to obtain further legislation on the subject.

Dr. Hosmer, chairman of the Committee on the petition of the Censors for the Suffolk District, for securing greater uniformity in the examination of candidates for membership, reported that the By-Laws of the Society fix with precision the conditions under which any Board of Censors may grant or may refuse the customary examination to any candidate. They also enumerate at length the qualifications which the candidate must be proved to possess in order to be eligible to membership in the Society. The report recommended the following addition to the list of printed questions, to which every candidate is now required to make a reply :—" Have you ever been examined by any Board of Censors of the Massachusetts Medical Society? If so, when and where?" It was further suggested that the name and residence of each candidate rejected by any Board of Censors be reported immediately to the secretaries of all the other

Boards. It was also suggested that the Secretary of the Suffolk Censors invite all the Censors of the several Districts to meet either with full Boards, or by delegates, for the discussion of questions in which they have a common official interest. Finally, it was recommended that a Committee of three be appointed to constitute a Standing Committee on Medical Diplomas, whose duty it shall be to prepare and submit for acceptance, with such subsequent additions and corrections as may be needed, a list of those American Medical Colleges which, in its opinion, deserve to be recognized by the Councillors for the purpose set forth in By-Law I.

Voted,—To accept the report of the Committee.

In accordance therewith the following Committee on Medical Diplomas was appointed:—Drs. C. W. Swan, J. Spaulding, J. Crowell.

The Committee on Nominations, through Dr. Wyman, reported a list of candidates for the offices of the Society for the ensuing year, and the same were duly elected by ballot:

President	Dr. H. W. Williams.
Vice-President	Dr. T. H. Gage.
Treasurer	Dr. F. W. Draper.
Corresponding Secretary . .	Dr. C. W. Swan.
Recording Secretary . .	Dr. F. W. Goss.
Librarian	Dr. D. H. Hayden.

Dr. Pliny Earle, of Northampton, was chosen Orator, and

Dr. George S. Osborne, of Peabody, Anniversary Chairman for the next Annual Meeting.

Voted,—That the next Annual Meeting be held in Boston, on the second Wednesday in June, 1882.

On nomination by the President the following Standing Committees were appointed:

Of Arrangements.

F. C. Shattuck, E. H. Bradford, A. T. Cabot,
E. G. Cutler, C. E. Wing, H. C. Haven.

On Publications.

G. C. Shattuck, R. M. Hodges, B. E. Cotting.

On Membership and Resignations.

J. Ayer, F. Minot, D. W. Cheever.

On Finances.

C. D. Homans, W. W. Wellington, B. S. Shaw.

To Procure Scientific Papers.

C. W. Swan, F. K. Paddock, G. S. Stebbins,
J. R. Chadwick, R. H. Fitz.

On Ethics and Discipline.

R. L. Hodgdon, G. J. Townsend, G. E. Francis,
A. H. Johnson, C. Howe.

A request was read from the Society that a Committee be appointed by the Councillors to act in conjunction with a Committee of three from the Society, and to make a joint report, on the relative rights of the Councillors and Society to originate amendments to By-Laws, and to consider other points as recorded in the proceedings of the adjourned meeting of the Society held at 4 o'clock this P.M. This Committee to report at the next Councillors' meeting.

Voted,—To appoint a Committee of three to act in conjunction with the Society's Committee.

The President appointed Drs. J. L. Hildreth, W. Cogswell and A. Hosmer to constitute the Committee from the Society; and Drs. H. I. Bowditch, S. E. Stone and S. D. Presbrey were chosen the Committee from the Councillors.

The Treasurer stated that Dr. B. E. Cotting had offered to double the fund standing in his name on terms similar to his original gift. He also presented to the Councillors, in behalf of Dr. Cotting, as a memento, a silver pitcher, to be used at the Councillors' lunches, having a professional inter-

est as a gift to Dr. Cotting from the late Dr. George Hayward, as a token of the intimate friendship which had existed between them for many years.

Voted,—That the thanks of the Councillors be presented to Dr. Cotting for his generous gifts.

At 8.45, P.M., the Councillors adjourned.

FRANCIS W. GOSS,
Recording Secretary.

PROCEEDINGS OF THE SOCIETY.

ADJOURNED MEETING.

June 7, 1881.

The Society met pursuant to adjournment at 4 o'clock, P.M., June 7, 1881, in Horticultural Hall, Boston.

The President, Dr. H. W. Williams, in the Chair.

The Secretary read the portion of the record of the last Annual Meeting pertaining to this Adjourned Meeting.

The President stated that the contingency for which the meeting was called had not arisen, consequently there was no business before the meeting.

Drs. Cabot and C. P. Putnam dissented from the views of the Chair; Dr. Putnam stating that as there was not now an opportunity for the discussion of the question of the admission of women to the Society he

Moved, That the Society adjourn till 8 o'clock this P. M.

Dr. Hosmer argued that to adopt this motion would be unfortunate and unnecessary. He therefore

Moved, That the meeting do now adjourn.

The motion of Dr. Hosmer was not carried.

A long discussion ensued regarding the adoption of Dr. Putnam's motion, which he afterwards withdrew, and there followed the consideration of the question whether the

Society could originate changes in By-Laws, to be acted upon subsequently by the Councillors, or whether the Councillors must initiate all such changes. Finally the following, offered by Dr. Hildreth, and amended by Drs. Chadwick and Walcott, was passed:

Voted, That the President appoint a Committee of three to consider the relative rights of the Council and Society to originate amendments to the By-Laws, and to report at the meeting of the Councillors in October, 1881,—also that the Councillors be requested to appoint a Committee at their next meeting to act in conjunction with the Committee of the Society, and to make a joint report.

Voted, That this Committee be requested to report whether it is desirable to formulate a new Code of By-Laws, and that the Committee be empowered to take legal advice if necessary.

Adjourned at 5.15, P.M.

FRANCIS W. GOSS,
Recording Secretary.

ANNUAL MEETING.

First Day.

The celebration of the Centennial Anniversary of the Society began on Tuesday, June 7, 1881, at 9 o'clock, A.M., with visits of the Fellows to the various Departments of Harvard University, at Cambridge, and to the Abattoir at Brighton.

At 11 o'clock, A.M., the Centennial Address was delivered by Samuel A. Green, M.D., of Boston, in Sanders Theatre, at Cambridge.

At the close of the address, by invitation of the President and Fellows of Harvard College, the members took luncheon in Memorial Hall. President Eliot, in behalf of the President and Fellows of the College, welcomed the Society,

in a few fitting words, to which Dr. Williams, President of the Society, made the following response:

Mr. President, Gentlemen of the Corporation, and Professors of the University,—In behalf of the Massachusetts Medical Society, *nemine contra dicente,* I offer thanks for the large and graceful hospitality with which Harvard College has welcomed us. Your invitation was interpreted as a flattering token of honor and of sympathy: that it was thus intended has been most amply shown, in the manner of our reception, and, Mr. President, in your kind and courteous words.

Many of our Fellows, recalling their early years, spent under the benignant sway of Alma Mater, mark with filial joy the evidences of her prosperity; not only in these sumptuous and convenient buildings, but in the immense increase of facilities for instruction, for study, for comfort, and for health. Others of us, coming to this ancient university for the first time, cannot but be impressed by the wealth of resources, in learning and in science, here offered for selection to their votaries; even Celestials,* in shining raiment, lending their aid to the aspiring student.

It is a privilege to visit these magnificent museums, so nobly founded and so generously endowed, which will be enduring monuments of the wisdom of their benefactors; to view the rich stores of the vast and commodious library; and to find in the splendid gymnasium the means which secures to the educated man a healthy body for the abode of a sound mind. From this hall we shall carry with us reminiscences which will remain in our hearts.

As Fellows of the Massachusetts Medical Society, as members of the medical profession, we owe much to the college. Most of our original corporators were graduates of Harvard. Less than two years after the incorporation of the society its officers were invited to attend the public induction of the gentlemen elected as the first medical professors, and to dine, on that occasion, with the corporation and overseers in the hall. At a later period, to avoid any semblance of interference with the chartered privileges of the society, the college authorities agreed to expunge from the diploma any words implying the right to *practise* medicine; and not to examine for a degree such candidates as the censors of the society had rejected.

It is due to the fostering care and willing coöperation of the college with the society that the standard of education in the medical school has been kept so high as to place its graduates far above the level of charlatans and pretenders.

It is therefore most fitting that this university, and the society which to-day comes to greet its elder scientific sister, should con-

* The Chinese Professor.

tinue in the future, as in the past, to strengthen each other's hands. The honor and welfare of the profession of medicine are committed to their joint keeping.

Having regard to our quality as guests, you have forborne, Mr. President, to set forth, in persuasive words, the needs of the university. Nevertheless, we propose to follow the example of the apostle; and, of such as we have give we thee. The Fellows of the society have wealth of olive branches, present and prospective. These shall we send for your acceptance; sure that they will thrive in this congenial soil; and hoping that when transplanted to the larger field of the world they will do credit to the nursery in which they were trained.

At 12.45, P.M., the Society proceeded from Cambridge to Rowe's Wharf, Boston, whence by invitation of the profession of Boston and vicinity they embarked for an excursion, by steamer, in the harbor.

During the evening, from 7.30 to 9 o'clock, the trustees of the Museum of Fine Arts in Boston received members of the Society with ladies, and at a later hour the President of the Society received members at his house, No. 15 Arlington Street, where they were hospitably entertained.

SECOND DAY.

The various hospitals and medical museums of Boston, the museums of Fine Arts and of Natural History, the Institute of Technology, and Trinity Church, were open to members of the Society during the forenoon of Wednesday, June 8, 1881.

A very interesting Comparative and Historical Exhibition of Instruments, Apparatus, Books and Medicines, prepared by a Committee of the Fellows, was also open to the Society in lower Horticultural Hall, Boston, at 9 o'clock, A.M.

The following description of this Exhibition is taken from the Boston Medical and Surgical Journal :—

Beginning with the fifteenth century, many of the most important and most curious specimens of medical literature which the world has produced were collected and arranged in a manner calculated to furnish a graphic idea of the evolution of medical science. The marked feature of the exhibition, however, was the series of illustrated anatomies, many beautiful specimens of art from the domain of pathological anatomy and surgery being included. As a whole the exhibit gave an excellent idea of the rise and progress of anatomical illustration. Confining ourselves for a time to what we have called the principal line, we would draw attention at first to the anatomical works of the pre-Vesalian period.

The various editions of Mundinus, the graceful cuts of some of the earlier editions of Johann de Ketham, containing the earliest anatomical woodcuts, including Dr. Hunt's copy of the *editio princeps*, bearing date of 1491, the rude cuts of some of the German anatomists, may be all mustered, as far as anatomical work is concerned, under the leadership of Jacobus Berengarius Carpensis. Professor Holmes's copy of this work was one to satisfy the most exacting bibliophile.

It would be impossible to mention all the volumes that represented the next great stage of anatomical development. Beginning with Vesalius and Etienne—remarkable for his minimum of anatomy and maximum of non-essentials—and ending with Albinus, there was hardly an important anatomical work missing from the exhibit.

Vesalius would have rejoiced to have seen Grevin, Hamusco, Plater, Alberti, Bauhinn, and many others of the eighteenth-century anatomists shown in a position that rendered their indebtedness to himself very evident, while Bedloo might have sympathized with him in seeing his gorgeous plates in the beautiful copy of Professor Holmes shown by the side of Couper's English edition of the same plates, published without acknowledgment of their source,—for book pirating is by no means an invention of the present day. Brown, on the other hand, would have fellowshipped with his countryman Couper, for his Myographia bore evidence of its lack of originality in the company in which it was shown ; but to follow the anatomical plagiarisms would be altogether impossible in the space at our command.

A long series of works, among which we may mention an edition of Aselli with the rare colored woodcuts, the slightly known plates of Beretini, the Osteographia of Cheselden, an odd little specimen of the colored copper plates of Dagoty, the Observationes Anatomicæ of Santorini, bring us to the epoch of Albinus, whose Tabulæ

Scaleti et Musculorum and the Tabulæ Ossium in beautiful editions demonstrate his skill, taste, and learning. Haller and William Hunter were noticeable in the epoch that intervened between Albinus and Scarpa, Soemmering and Mascagni. Probably the brilliant-colored copy of the Anatomia Universa of Mascagni, loaned by Dr. J. C. Warren, was one of the most striking objects in the exhibition, but the beautiful engraving in Dr. Hunt's copy of Scarpa did not lose in effect, nor was the conscientiousness of Soemmering's production less perceptible in comparison with its gorgeous coloring.

Of the anatomists of our own century we can only say that, while many were shown, want of space prevented a full display of nineteenth-century work. The anatomical works were followed by a brilliant line of chromo-lithographic and other representations of pathological anatomy and surgery. Cruveilhier, Ricord, Mad. Boivin, Mad. Lachapelle, Bougery, Pirigoff, Hunter and Bell, Sibson and Cooper, formed a group not less interesting than the anatomists already mentioned. Then followed some very beautiful botanical plates; the grand works of Thornton, Hill, Blume, Miller, and many others giving rare representations of the application of pictorial art to scientific medicine.

We cannot even attempt to notice the hundreds of volumes of curiosa. There was the old Ortus Sanitatis and its long progeny of fifteenth and sixteenth century herbalds, German and English; fifteenth-century tracts on Syphilis, the Surgery of Taliacotius, the works of Fallopius, Fabricius Hildanus, Fabricius ab Aquapendente, Paré, Malpighius, Willis, Leuwenhoek, of Harvey the great and Gideon Harvey the little, of Bishop Berkeley, eloquent upon the virtue of Tar Water, and an original account of Perkins's Tractors. Not the least interesting in this department were the exceedingly rare and valuable original works on Cow-Pox, loaned by Dr. Henry A. Martin, whose name was also attached to many other rare pieces. Particularly noticeable, even among the many rare books, was Dr. Holmes's minute edition of Hippocrates, with notes by "Dr." Rabelais, published in 1545.

An especial object of interest in this celebration of the nativity of the society, whose birth was so closely connected with the War of Independence, was the single volume of the unfinished Anatomy of Vicq D'Azyr, bearing the date of 1786. The pathetic story of his talented career, so early closed by too arduous devotion to the science of his choice, will always give additional interest to the magnificent folio which bears his name; but the present interest to which we especially refer lies in the dedication, of which we give a translation: "Louis XVI., to whom the thirteen States of the new world owe their liberty, the seas their independence, Europe peace, France its monuments of justice, benevolence, and humanity, science, letters, and arts a strong support, has deigned to accept the dedication of this work."

Of the engravings displayed it is only possible to say that they deserve quite as full a notice as the books.

The materia medica exhibit, divided into ten groups, arranged on each side of a passage on the right of the hall, attracted the attention of the visitor by its novel and picturesque appearance. The pressed medicinal plants from the Gray Herbarium at Cambridge papered the wall at one end of the hall, the botanical models from the College of Pharmacy covered a large table near the entrance, and hundreds of bottles from the cabinets of the College of Pharmacy and the Harvard Medical School were arranged along either side, interrupted only on the left by Mr. Sheppard's collection of Pharmacopœias and Dispensatories.

The principal groups were arranged in regular order, with numberless explanatory cards. They were, briefly, as follows:—

No. 1 contained upon its upper rows the vegetable and animal drugs which have been officinal during the entire century; that is, they were to be found in the Edinburgh Pharmacopœia of 1783, or the London Pharmacopœia of 1788, and in all the editions of that of the United States to the present time. The middle shelves of this group contained the chemicals, and the lower one the preparations which have stood the same test. These, the "Ancients and Honorables," were in full force, there being in the upper rows hardly a deficiency, excepting common articles not exhibited. Of the preparations, a complete catalogue was prepared for distribution, but only about fifty of the most interesting were shown. No. 2 contained those which have been discarded during the century. This group was naturally quite incomplete, still it contained a few things quaint and curious. No. 3, drugs and preparations introduced during the same time, was fully represented. No. 4, novelties not yet officinal. This interesting collection numbered from fifty to sixty specimens of crude drugs and a number of preparations; among the former, coto quebracho, duboisia, "yerba santa," and others attracted attention. Among these it was curious to see pepsin and "cosmoline," which have been used so long as to seem officinal. The elastic capsules, soft as India rubber, containing half an ounce each of cod-liver oil, were the most striking novelties of the season. These were in No. 5, devoted to modern specialties.

The case No. 6, containing proximate principles found in medicinal plants and animals, was unusually full and interesting, and included many of great rarity and value. The fixed oils, eighteen or twenty in number, included all of any interest to the physician. The volatile oils, fifty-four in number, represented almost every conceivable aromatic drug. Among those rarely seen were the oils (not oleoresins) of pepper, ginger, and cubebs, calamus, and East India sandal-wood. Menthol, vanillin, copaivic acid, as well as resorcin, were other interesting novelties. The centre of the case was

filled with alkaloids and their salts. Of the alkaloids themselves and definite neutral or acid constituents there were one hundred and thirty-two. Among the rarer substances here were to be found crystallized aconitine, pseud- and jap-aconitine, pelletierine, cotoin, para- and hydro-cotoin, duboisine, curarine, crystallized tannic acid, pepsin (pure), and many non-commercial alkaloids of opium. Besides these there were salts of the commoner alkaloids in great variety, and a beautiful set of seventy alkaloids, acids, and salts from the cinchona. No. 7, miscellanies and curiosities, contained several obsolete medicinal fungi and numerous worthless things which have had a temporary place in therapeutics. No. 8, the Pharmacopœias and Dispensatories above mentioned, of all ages and languages, numbered over two hundred.

An annex to the Herbarium already mentioned was formed by living specimens of guaiacum, hæmatoxylon, cinchona, and other interesting plants of medicinal virtues upon the stage at the other end of the room.

The botanical models which attracted much attention were Anjoux's complete set of thirty-seven flowers, fruits, etc., made upon a greatly enlarged scale (the peapod is about two feet long), and capable of being taken to pieces so as to display the internal structure. Of the specimens shown it is interesting to know that many were donations from leading manufacturers and dealers, or from druggists in the city, and that after the exhibition they were divided between the College of Pharmacy and the medical department of Harvard University, whose cabinets are thereby materially enriched.

We have already dwelt so long on the other portions that we have but space for a very brief mention of the surgical exhibit, which showed equal care in its preparation with the others already mentioned.

The observer was carried directly back over the hundred years by the two surgical cases of Jeffries and Warren, which were used on the opposing sides during the Revolution, but lay peacefully side by side in the hall. One of the most striking commentaries on the change in medical practice was the set of perhaps thirty lancets, the *vade mecum* of an old practitioner in the palmy days of phlebotomy. Waterhouse's lancets lay by the side of his silver snuff-box, in which vaccine lymph is reported to have been sent him by Jenner.

The gynæcological instruments showed the development of the speculum and pessary into their present forms. One very old pessary, used by a practitioner of Boston, too long "under green bedclothes" to take any lively interest in the matter, bore a striking resemblance to a pessary now largely sold under the name of a modern gynæcologist.

A collection of old obstetrical instruments presented a marked

contrast to the neighboring armamentarium of an obstetrician of to-day, and a stethoscope given by Laennec to Dr. Bowditch looked strangely rude by the side of the polished instruments of recent date.

Space fails for even the mention of the great variety of improved modern instruments loaned by the hospitals and instrument makers and surgeons of the city.

The gentlemen who were active in the establishment of this exhibition deserve well of their brethren. They helped show the connection of our profession on the one hand with literature and art, on the other with the natural sciences, while the surgical exhibit particularly showed the advances during the hundred years of the society's existence. We have purposely abstained from mentioning names; to catalogue those whose labor or contributions deserved notice would have been impossible, and to distinguish would have been invidious.

The Society met in Horticultural Hall, Boston, on Wednesday, June 8, 1881, at 11 o'clock, A.M., for the Centennial Anniversary exercises.

The President, Dr. H. W. WILLIAMS, in the chair.

The records of the last Annual Meeting and of the Adjourned Meeting were read and accepted.

The action of the Board of Trial in the case of Dr. Calvin Sloane May, late of Danvers, was confirmed, and it was

Voted, That Calvin Sloane May, M.D., be and is expelled from his membership of the Massachusetts Medical Society.

The Secretary read the names of Fellows admitted since the last Annual Meeting, and of Fellows whose deaths had been reported.

Fellows admitted since June 8, 1880.

1880	Abbott, Stephen Wendell . .	Tewksbury.
1880	Adams, George Edwin . .	Worcester.
1881	Bradt, Gerrett James . .	Lowell.
1880	Briggs, Edward Cornelius . .	Boston.
1881	Bullard, James Hovey . .	Boston.
1881	Carolin, William Terence . .	Lowell.
1881	Clement, George Colburn . .	Haverhill.

1880	Cobb, Charles Henry	Boston.
1881	Croston, John Francis	Haverhill.
1881	Cunningham, William Frost	Boston.
1881	Cushing, Hayward Warren	Boston.
1880	Cutter, Edward Jones	Boston.
1881	DeBlois, Thomas Amory	Boston.
1881	Dixon, Robert Brewer	Boston.
1880	Donovan, Samuel Magner	Quincy.
1880	Dresser, George	Chicopee.
1880	Ellis, Fred Warren	Springfield.
1880	Emerson, William Carroll	Boston.
1881	Fessenden, George Russell	Ashfield.
1880	Fraser, John Chisholm	East Weymouth.
1880	Fuller, George Ephraim	Monson.
1881	Gardner, Clarence Rudolphus	Great Falls, N. H.
1881	Greenwood, Sewell Elliott	Templeton.
1881	Hall, Walter Langdon	Medford.
1881	Halloran, Michael Joseph	Worcester.
1880	Harmon, Samuel Tappan	Boston.
1880	Harrington, Frank Bishop	Boston.
1881	Haskins, Solomon Foot	Yarmouthport.
1881	Hayward, George Griswold	Boston.
1880	Hersey, Freeman Clark	Salem.
1880	Hodges, William Donnison	Boston.
1880	Jackson, William Benjamin	Lowell.
1880	Jefferson, Herbert Perry	Lowell.
1881	Johnson, John Waldo	Boston.
1881	Kingman, Rufus Anderson	Boston.
1880	Kittredge, Joseph	Marblehead.
1880	Maloney, Jeremiah Lynch	North Adams.
1881	March, Daniel, Jr.	Winchester.
1881	McKinnon, John Alexander	Lowell.
1880	Mellen, William Michael Edward	Chicopee.
1881	Mignault, Victor	Lawrence.
1880	Millet, Charles Sumner	Rockland.
1881	Niles, Daniel Waterhouse	Worcester.
1880	O'Callaghan, Thomas Albert	Worcester.
1881	Otis, Walter Joseph	Boston.
1880	Parsons, Azariah Worthington	Athol.
1881	Pitcher, Samuel	Hyannis.
1880	Pomroy, Herbert Jason	Boston.
1881	Robbins, James Henry	Hingham.
1881	Roeth, Adolphe Gaston	Boston.
1881	Rogers, Gorham Davis	Byfield.
1881	Ryan, Philip Marcellus	Woburn.
1881	Sanborn, Perley Lewis	Marblehead.
1881	Scully, Francis Patrick	East Cambridge.

1880	Sherman, Thomas Foster	Boston.
1881	Sherman, Warren Hobart	Lynn.
1881	Sidney, Austin Wilbur	Fitchburg.
1881	Sprague, William Lawrence	Boston.
1881	Stickney, Clifford Webster	Holden.
1881	Stone, Solon Buckley	Malden.
1880	Strong, Charles Pratt	Boston.
1880	Stuart, James Henry	Boston.
1880	Swift, William Nye	Boston.
1880	Temple, William Franklin, Jr.	Boston.
1881	Thomas, John Glover	Worcester.
1881	Titcomb, George Eugene	Concord.
1880	Totten, John Edmund	Attleboro'.
1881	Turnbull, Frederick Moncrieff	Somerville.
1880	Underhill, Caleb Brooks	Boston.
1881	Wakefield, Alley Talbot	Cambridgeport.
1881	Warren, Edward Winslow	Boston.
1881	Watson, Barron Crowell	Roxbury.
1880	Webber, Fred Ward	Newton.
1880	Welch, John Frederick	Quincy.
1880	West, Edward Graef	Roxbury.
1880	Weston, Charles Galen	Revere.
1881	Whitney, Herbert Baker	Boston.
1881	Whittlesey, Francis Pitkin	Great Barrington.
1881	Wilmarth, Alfred Warren	Taunton.
1880	Withington, Charles Francis	Boston.
1880	Wright, Walter Melvin	Orange.
1881	Whitman, Royal	Boston.

Total, 82.

Also, the following, elected to Honorary Membership.

1880	Barker, Fordyce	New York City.
1881	Bowman, William	London, England.
1881	Donders, Franz Cornelius	Utrecht, Holland.
1881	Gamgee, Sampson	Birmingham, Eng.
1881	Rolleston, George	Oxford, England.
1880	Verneuil, Aristide Aug. N.	Paris, France.

List of Deceased Fellows.

Admitted.	Name.	Residence.	Date of Death.	Age.
1818	Alden, Ebenezer	Randolph	Jan. 26, 1881	92
1842	Bacon, Amasa Durkee	Sharon	Mch. 28, 1881	74
1877	Bielby, Porteus Posket	Salem	Aug. 1, 1880	32
1870	Cahill, George	Lynn	Jan. 27, 1881	40
1879	Clifford, Arthur	New Bedford	Mch. 11, 1881	28
1835	Coit, Daniel Tyler	Norwich, Conn.	July 2, 1880	74
1855	Collins, Clarkston Thomas.	Great Barrington.	Apr. 10, 1881	60
1875	Dale, William Henry	Boston	Oct. 17, 1880	36
1852	Dorr, James Colby	Medford	Sept. 18, 1880	52
1837	Fay, Allen Clark	Milford	June 18, 1880	76
1838	Ferre, Henry	Dalton	July 31, 1880	79
1839	Field, Caleb Clesson	Leominster	May 6, 1881	73
1858	Garland, Geo. Waterhouse	Lawrence	May 5, 1881	68
1840	Hyndman, James	Boston	May 6, 1881	62
1833	Jackson, Charles Thomas	Somerville	Aug. 29, 1880	74
1875	Knight, Stephen Converse.	Marblehead	Dec. 3, 1880	36
1840	Lothrop, John Lewis	East Somerville	Mch. 31, 1881	67
1875	Lovejoy, Daniel Heywood.	Winchester	Feb. 27, 1881	42
1855	Mason, William	Charlestown	Mch. 18, 1881	75
1840	Meekins, Thomas	Williamsburg	Aug. 5, 1880	84
1877	*Otis, George Alexander.	Washington, D. C.	Feb. 23, 1881	50
1863	Perkins, George Thomas.	Boston	Dec. 7, 1880	42
1832	Perley, Daniel	Lynn	Jan. 31, 1881	76
1869	Putnam, Dana Boardman.	Boston	Feb. 11, 1881	55
1881	*Rolleston, George	Oxford, England.	June 16, 1881	52
1834	Root, Martin	South Byfield	Oct. 28, 1880	78
1867	Ryan, James Charles	Abington	Sept. 18, 1880	34
1858	Saville, Henry Martyn.	Boston	Jan. 11, 1881	47
1854	Smith, David Paige	Springfield	Dec. 26, 1880	50
1817	Spofford, Jeremiah	Groveland	Sept. 16, 1880	92
1830	Torrey, Augustus	Beverly	Nov. 1, 1880	75

* Honorary. Total, 31.

The Treasurer's report was read.

On motion of Dr. Jeffries the following was passed:

Whereas, a petition has been presented to Congress asking for the calling of an international commission to consider and agree upon standard methods of testing visual acuteness and color-blindness, and standard requirements of these necessary qualifications in the navies and merchant marines,

Voted,— That the Massachusetts Medical Society heartily approves of the proposed international commission, and hereby directs the Secretary of the Society to transmit this vote to Congress when next assembled.

The following delegates from other State Medical Societies were introduced and welcomed by the President:

Maine.—Dr. S. Laughton.
New Hampshire.—Drs. G. Cook, T. J. W. Pray.
Rhode Island.—Dr. W. R. White.
Connecticut.—Drs. D. A. Cleaveland, M. V. B. Dunham.
New York.—Dr. S. G. Wolcott.
New Jersey.—Dr. J. L. Bodine.
Pennsylvania.—Drs. J. D. Littlefield, L. Turnbull.

Drs. Turnbull, Wolcott and Laughton offered words of greeting from their respective societies.

Dr. Hodgdon stated that in order that the Society may have a meeting to discuss By-Laws, if necessary, he offered the following, which was adopted:

Moved,—That when this Society adjourn it do so to meet on the Tuesday preceding our next Annual Meeting, at 4, P.M., in the hall then selected for our annual exercises, and that the Secretary be requested to notify the members of this meeting.

At 12 o'clock the Annual Discourse was delivered by J. Collins Warren, M.D., of Boston.

At the close of the discourse an appropriate expression of thanks was voted to the Orator, and also to Dr. S. A. Green for the Centennial Address delivered at Cambridge, yesterday.

At 1 o'clock, P.M., the Society adjourned to the Music Hall, to engage in the exercises of the Anniversary Dinner.

FRANCIS W. GOSS,
Recording Secretary.

The Dinner.

Dinner was served at one o'clock in Music Hall, plates having been laid for one thousand guests. The following gentlemen occupied seats on either hand of the Chairman at the elevated table: President Williams, Governor Long, Mr. Eliot, President of Harvard University, Dr. Gross,

Hon. Mr. Hoar, Dr. Holmes, Rev. Phillips Brooks, Mr. Harrison of Liverpool, Dr. Jacobi of New York, Rev. G. E. Ellis, Mr. Agassiz, Dr. Hingston of Montreal, Surg.-General Dale, Dr. S. A. Green, Dr. J. C. Warren, Dr. McEwen of Chester, Eng., Dr. Knight, U. S. N., Dr. Lyman, Dr. Cogswell, Dr. Bowditch, Dr. Gordon of Maine, Dr. Conn of New Hampshire, Dr. Jackson of Vermont, Dr. Dougherty of New Jersey, Dr. Reeves of Ohio, and Dr. Geddings of South Carolina.

Divine blessing was asked by Rev. Phillips Brooks. At the close of the dinner the chairman, Dr. James C. White, called the Society to order and addressed it as follows:

Mr. President and Gentlemen
of the Massachusetts Medical Society.

It is my pleasant duty after the varied and novel entertainments of these two days of celebration, during which you have enjoyed the large hospitality of a great university, and the courtesies so generously extended by many societies, institutions, and your professional brothers of this vicinity, to welcome you to your own table, where you may receive the distinguished guests who honor us with their presence, and congratulate yourselves upon this notable birthday of our venerable mother Society. Let me hasten to express due acknowledgment for these many acts of kindness, and in your name to return to all who have been engaged in them the sincere thanks you are so eager to offer.

A century of American Medicine! Already you have listened to two admirable addresses upon this theme, but I cannot forbear to recall your attention to the possibilities demonstrated by that hundred years in the progress of the collateral branches of our art, so richly illustrated in the object-lessons studied by you at Cambridge yesterday. What did those who founded our society know of comparative biology, of ethnology, of American botany? What opportunities could the University then offer for their study? Dr. Waterhouse brought with him from Holland some knowledge of natural history, but it was not until the early years of this century that these branches were cultivated among us to any practical results, and that an active interest was awakened in their study by the example of members of our Society. Dr. Jacob Bigelow published in 1814 the interesting results of his explora-

tions in the almost unknown flora of Boston and vicinity, and in the same year there was organized at his house a society for the study of natural history, which included among others Drs. Walter Channing, George Hayward, John Randall, John Ware, John Jeffries, John Warren, Enoch Hale, J. C. Warren, James Jackson, Francis Boott, and G. C. Shattuck. The magnificent collections that you have just visited may be proudly claimed as the legitimate outcome in large measure of this early appreciation on the part of such distinguished members of our society of the value of these branches of learning, although their own work in them was done without the aid of preserved specimens or published works on American natural history. Our founders approached too nearly that period in the early history of Massachusetts when men were much concerned in escaping the flying arrow, and surgeons were treating rude excisions of the scalp, that there should have been awakened in them a passion for collecting and preserving arrow heads and stone hatchets. Home studies in autochthonal ethnology would have been scarcely pursued with the proper freedom from personal bias, and the rich materials of our western archæological remains lay all unknown in a vast wilderness. No gymnasiun was thought necessary for the physical training of students whose muscles were hardened from early boyhood in the labors of the household or farm. The axe, the hoe, and enforced pedestrianism were as searching in their developing action upon young frames as the ingenious and artificial apparatus inspected yesterday. Teachers in no branch of our art held then any place in the University. The Medical School was not founded until a year or more after this society was formed.

Such are some of the suggestions which must have forced themselves upon you during your Cambridge visit. Who would venture to predict what might be taught in a university, or shown in its museums, a hundred years hence? What the contrast between the latest materia medica collected in the adjoining hall illustrative of the advance in the past centenary, and the possibilities which medical science may achieve in synthesis, when the unravelled elements and atoms themselves are at its creative disposal before the year 1981? We but crawl now compared with our certain flight hereafter. Human imagination itself is as yet too embryonic in its powers to approach the comprehension of this future.

But I may but glance backwards or forwards along our course, for the joyous spirit of the present occasion should fully occupy our hearts to-day. The completion of a hundred years of existence by a society devoted, as they have been, to the establishment of wise laws for the physical elevation of the race; the recognition and defence of all ennobling principles; active warfare against pretentious and dangerous ignorance within and without its ranks;

encouragement of the highest interests of medicine in education, science, and practice; and the cultivation of good fellowship between man and man in their professional relations, should certainly be celebrated as a jubilee, not only by ourselves, but by all who recognize the value of such labors for humanity.

We have with us at our feast to-day those whose presence lends distinguished honor to such a celebration, the highest representatives of the State and the University, of Divinity and Law, of History and Poetry and Science. Our sister societies of other states have sent their delegates to congratulate us, and eminent physicians from all parts of our country have come to wish us continued prosperity. From every great city of the Union, and from our brothers in Canada have come letters, from the most renowned men in our profession, regretting that they could not take part in our festivities and tell us face to face of the respect they bear our venerable association. We offer them all the sincerest thanks and welcome.

I beg to offer in conclusion, at the request of Dr. Willard Parker, one of our most valued honorary members, the following sentiment:

"The Massachusetts Medical Society. As years roll on, may she ever unite with the wisdom and experience of age, the vigor and efficiency of youth."

The Chairman:

In these hundred years the Society has been especially fortunate in its thirty distinguished presidents, from Dr. Holyoke to our present esteemed head. It is most fitting that one who has so long taken an active part in its councils should speak for it in this capacity on its coming-of-age.

Our President—Dr. Henry W. Williams.

Dr. Williams responded as follows:—

Accept my warmest thanks, Fellows of the Massachusetts Medical Society, for this *supreme* honor conferred in my election as your *Centennial* President. I count myself in nothing else so happy as to be thus remembered by my good friends.

The charm of this day is the charm of memory; it brings us face to face with the men of the past. Reading the lesson of the lives of our founders, we find in their high example of honor and faithfulness an inspiration for ourselves. And as we contemplate the eminent and earnest life of our first president, Dr. Holyoke, we may well adopt as our own the yearning invocation of Elisha to the ascending Elijah, "My father, let a double portion of thy spirit fall upon me."

The date of our baptismal certificate,[1] signed by the same bold hand which subscribed the charter of our national liberties, John Hancock, attests for this society a hundred years of honorable life. And though not to many of its Fellows will be accorded the century of usefulness which was granted to the first president of this association, yet, though the members die, the society lives.

As I look around me I see a spirit of youth in everything. Our annals are still a record of self-sacrifice, of devotion to duty, of careful scientific research. And as the unit of years since the birth of the society has become a hundred, so the links of the chain of friendship, forged by Holyoke, Rand, Tufts, Warren, and their associates, have been multiplied and strengthened, until it now extends from one extreme of the Commonwealth to the other, —from Hoosac's heights to Siasconset's sands,—uniting us all in one brotherhood of faith and duty.

But the prophetic eyes of those earnest men, sanguine as they doubtless were, pictured for them no scene like this. The charter of incorporation limited the number of Fellows to seventy; that being as many as it was supposed would in all the Commonwealth be eligible for the honor of admission to such a fraternity. Less than twenty attended at several of the first annual meetings; because, as they said, of the remoteness of their places of residence, at Salem and other towns distant from the capital.

Could they revisit us to-day they would surely be satisfied that the seed they had sown in weakness, but in trustful hope, had indeed been raised in power. Could they see what has been done, even in this present generation, by their Massachusetts Medical Society, for the promotion of the object so dear to their hearts, as set forth in the charter, the preservation of health, so essential to the happiness of the community; could they behold the veil of unconsciousness softly drawn over the subjects of capital operations, and observe its magic lightening of that pristine sorrow which is forgotten only when a man is born into the world; could they witness the doings of our own great surgeon, Bigelow, who has solved the problem with which Hippocrates cared not to grapple, demonstrating to a grateful world how vesical calculus, that incubus from which the stout heart of the Father of Medicine shrank dismayed, can be removed, *currente manu*, at a single sitting, quickly, safely, pleasantly; could they survey the Society as it is to-day, multiplied twenty-fold beyond their limit of expectation, endowed with instruments of research to them unknown, educated beyond their highest opportunity; and should they follow these brethren here present as they dispense throughout the whole length and breadth of the Commonwealth those kindly and skilful ministrations which give to the longing sufferer solace and restoration,

[1] Here the original charter was exhibited to the society.

—could they view such a fruition, surpassing their utmost anticipations and fondest hopes, their hearts would overflow with exulting thankfulness.

A distinguished citizen of Massachusetts once gave this toast: "Our country, however bounded, still our country; to be cherished with all our hearts and defended with all our arms."

So say we of our Massachusetts Medical Society. Its opinions and its methods may have changed somewhat from those of the time of Holyoke; we hope, we know, that another century will see modifications and improvements of our ideas of to-day; but the conservative principles of our association, its progressive aims, have been, are, and will remain the same. Changeless through every change, steadily augmenting its numbers and usefulness, our society, which for a hundred years has been the embodiment of medical knowledge and medical progress, well deserves in like manner to be cherished and defended.

The Chairman:

The Commonwealth of Massachusetts and the Massachusetts Medical Society; mutual servants and allies. What the latter has done for the former in the care of her citizens, wards, and soldiers; in making her towns and habitations healthy, and her sanitary code the model for other states to imitate, I need not mention in the presence of her chief magistrate; one who fully appreciates all labors for humanity, and whom all especially honor—

His Excellency, Governor Long.

To which the Governor responded as follows:

I am sure, Mr. President and members of the Massachusetts Medical Society, that one of the fundamental though unwritten laws of the Commonwealth is a sound mind in a sound body. A hundred years ago last October she provided for the former by adopting the Constitution under which her institutions of piety, education and progress have thriven from that day to this; and a year later, and nearly a hundred years ago, in order to promote the latter, she incorporated the Massachusetts Medical Society over the broad sign manual of her first governor, and put the lives and limbs of her citizens into its perilous keeping. I say *perilous* not altogether lightly, recalling the reference you have just made, sir, to "a century of medicine," the very thought of which almost necessitates the attendance of a physician. And, besides, you celebrate to-day a centennial not more of original beneficence than of constant progress out of error and ignorance into truth and knowledge. Of all the professions, that of medicine, I take

it, is the most experimental and tentative—a consideration, by the way, which is very delightful for the scientist but of somewhat doubtful comfort to the patient, in spite of the remark which Dr. Williams has just made that its operations are performed so "quickly, safely and pleasantly." During the century the common law has scarce taken a step. The pulpit has but amplified, not always successfully, the Sermon on the Mount. But without knowing anything about it—may it be long before from my end of the line I do know anything about it—I gather that medicine has made its splendid advance very much by forgetting and discarding its yesterdays. Of all the sciences this, then, should be, as it is, a liberal science; and, while it gains so powerfully from such an organization as yours has been in its promotion, it will take care to escape the one danger that attends all organization —the danger of limitation—a danger which, however, in the broadening light of the day, ought to cause little apprehension.

The Commonwealth, therefore, cordially responds with good wishes for the health and long life of this, which is one of its oldest and most beneficent incorporations. As your toast suggests, medicine and politics go well together, though in each case, I doubt not, it is much pleasanter to administer than to take the dose. There is certainly no better or more adroit politician than the doctor. And both medicine and politics are learning in the art of cure—one that it is better to recognize nature, let her have her head, not irritate her, but keep her well-fed and in the line of her own direction;—the other that it is better and just as easy to recognize not the worst but the best sentiment of the people and let them alone as far as possible, only seeing to it that they have a fair chance, good training and education, equal rights and, of all things else, pure air, pure water, and, especially within ten miles of Boston, good drainage. If medicine gave the name of Warren to Massachusetts, she in turn gave it to the country and to history, and has forever engraved it on the loftier heights; and she rejoices that after the lapse of a hundred years it is still one of the most promising upon her roll. Nor did Warren more patriotically devote his life to the cause of patriotism than your own associates from 1861 to 1865, who were in every command of the war, and on whom its horrors and ghastly spectacles fell all unrelieved. But your chief significance, after all, to the great body of the people of the Commonwealth, all of whom and not a part of whom I represent, is not immediately in your scientific progress, splendid as that has been; not so much in your patriotic and political services, great as those have been, but in your relation to their homes. In them, in the relief of pain, in the sympathy of attendance, in the emancipation of wife and child from sickness and death, in the tenderness and confidence of the friendship of the family doctor, you have your warmest hold upon their gratitude

and affection. It is not for me to enlarge upon your broader spheres of work, or the reliance placed on your judgment in the supervision and administration of the hospital, the board of public health, the fight with contagion and epidemic, and the great hygienic preventions and safeguards. The Commonwealth appreciates it all. She recognizes what a century it has been of beneficent, scientific, devoted progress, to which my lips, inexpert in its mysteries, can only pay the tribute of mute and open admiration. You may have been impatient with her sometimes. She may not humor your every project. She may depart from your advice now and then in the legislative construction of a board or in refusing to apply to your branch of American industry the doctrine of protection, but, taken by and large, her public sentiment gives you your due, vindicates her honesty of purpose and in the main her soundness of judgment, and will stand by you for another hundred years to come, as she has stood by you in the hundred years gone by, in every generous, onward step, so many of which you have already taken, and so many more of which you will hereafter take, in the work of saving the bodies, and, so far, of saving the souls, of her children.

The Chairman:

Harvard University.—To her medicine in New England is indebted for a century of fostering care, as in these later years is the whole country for the demonstration that a system of medical education characterized by a required preliminary training, by a prolonged course of regulated, practical studies, and by a degree based upon searching and impartial examinations, is not only possible but demanded by the profession.

I have the pleasure of presenting to you one, to whom, more than to any other, it is under obligation for this important result,—President Eliot.

President Eliot replied:

The profession of medicine is just now, for the first time in its history, dimly discerning its future greatness. The professions of law and divinity have been highly organized for many centuries. Indeed, priesthoods have thus far proved the firmest and most durable of human institutions, and legal tribunals and guilds are not much inferior in permanence, although less universal. The medical profession, on the other hand, has only lately begun to organize itself effectively, to exert a collective influence, and to take collective action through its schools, societies and literature. Yet no profession has more to gain by collective

action than that of medicine. The pupil of the isolated country doctor had but one master, few books, and very restricted clinical opportunities; the student at the modern medical school has forty masters, ample libraries, and an endless variety of bedside instruction. A few generations ago the knowledge and skill of the most sagacious and experienced physician were likely to perish with him, or to be precariously transmitted to a few immediate disciples. Now every accidental discovery, every result of long-continued observation, everything which medical sagacity discerns or genius divines, can be promulgated in societies, recorded in medical literature, and made easily accessible to future inquirers by catalogues and indices. Nothing which the loneliest physician or surgeon learns need be lost to the profession or mankind. To heal the individual bodies brought under his care was almost the only aim of the good physician of preceding centuries; but now wider interests demand a share of his attention. He studies to prevent disease; he strives to root out of society the causes of physical degradation and contamination; he contends against noxious trades and injurious occupations; he fights contagion, and also the irrational dread of it. In short, his mind ranges far beyond the healing of individuals to the welfare of the race. Now all these new and larger modes of action require coöperation, organization and collective public influence; and many new arts had to be discovered and brought into use before this coöperation and organization became possible. Without steam power, cheap printing and rapid mails, the advances made in medicine by the last two generations could not have been achieved. It is a wonderful stride from the electuary of sowbugs, the nauseous salt extracted from men's skulls, and the king's magic touch, which Dr. Green told us about yesterday, to sulphate of morphia, ether and quinine; but how short the time in which this progress has been accomplished! The life of this new country more than covers the period. It is not the advance of the physical and mental sciences alone which has made practicable the recent progress of medicine. The new art of bibliography is essential to modern medicine. The accumulating experience of civilized nations in constitutional government, and in association for public objects, has taught the medical profession how to organize itself and how to exert a useful public influence. The profession already begins to discharge a new and beneficent function through its influence upon sanitary and reformatory legislation; but not only is all such legislation actually very recent, but it has only lately become possible in modern States to have any such legislation, or to get it enforced. In view of these things, I say that the century whose completion this society is celebrating to-day, will hereafter be looked back upon as the birth-time of medicine as a learned and liberal profession. The calling of the priest or minister is ennobled by his conviction

that he labors for the spiritual part of man, and that in a special sense he belongs to the army of the living God. The lawyer holds that the great interests of public justice and morality are promoted by his labors, and feels himself a member of a venerable and vigorous body. The educated physician ought henceforth to feel that his work underlies all other work for humanity, and that even his single, fleeting life enters into the corporate immortality of a beneficent and powerful organization.

The Chairman :

The relations of medicine to the State and to legislation become more intimate each year as civilization advances. We look to our eminent statesmen for their assistance in making them still closer in many ways. It will give you great pleasure, I know, to give a hearing to Judge HOAR.

Judge HOAR replied :

Mr. Chairman, and Gentlemen
of the Massachusetts Medical Society :

I am grateful for the privilege of being present in this august assembly. I have been in considerable doubt to what cause to attribute the honor of an invitation to join you in this high centennial festival. After meditating upon it, I remembered first an old proverb which says that " at forty every man is either a fool or a physician ;" and as I had got far beyond that age, was inclined to hope that your chairman had viewed me in the more charitable alternative. Another claim, however, presented itself, in the fact that my earliest medical attendant, to whom I adhered as a faithful patient until his death, which was after I had reached manhood, was a man whose professional life antedated even the birth of your venerable society, Dr. Isaac Hurd, of Concord, who was a surgeon in the army of the Revolution, and one of your early members. But it occurred to me as still more probable, that in inviting the presence of a member of another profession, you wished to avail yourselves of an opportunity to indulge in what Burns so emphatically recommended,—

" To see oursels as others see us ; "

and desired to relieve the monotony of sounding your own praises, by the profit, if not the pleasure, of hearing a statement about doctors from a lawyer's point of view.

A poet has said of a work of genius, that

" It always finds us young,
And always keeps us so ; "

and your society is perhaps fairly entitled to a like commendation. Certainly, you always find us,—young; and keep us so to the best of your ability, or at least, in the case of one at my time of life,—so-so. But I must confess that the first opinion I formed of the medical profession was not at all favorable. It was in an attack of the measles, when about four years of age, that I gave my doctor such a vigorous and uncompromising statement of his own incapacity and the disgusting nature of his medicines, that the venerable man confided to my mother his belief "that the little boy was out of his head;" but the good lady did not share the apprehension, ascribing the outburst to a certain native sincerity which it has been the ambition of my life to preserve, and of which you, gentlemen, may expect to receive the full benefit. I will therefore add, that my respect for the medical profession has steadily increased from that day to this.

Among the titles of your society to the gratitude of the Commonwealth, his Excellency the Governor might have added to those which he has just so pleasantly and gracefully set forth, that Massachusetts has been indebted to it for two of his distinguished predecessors, John Brooks, and William Eustis, both members of the Massachusetts Medical Society, and Governor Brooks its president. But when his Excellency did say that doctors were noted as zealous politicians, and I remembered what dangerous wits I had known among them, it brought to mind that epigram of Prior, proposed as the epitaph of a patient of the famous Dr. Ratcliffe:—

"I sent for Ratcliffe: was so ill
The other doctors gave me over;
He felt my pulse, prescribed his pill,
And I was likely to recover.

But when the wit began to wheeze,
And wine had warmed the politician,
Cured yesterday of my disease,
I died last night of my physician?"

But, gentlemen, to speak more seriously, I wish to express my sense of what your society has accomplished during its centenary which entitles it to respect. "As certain also of your own poets has said" (if you will allow me to borrow that scriptural phrase),—

"Little of all we value here,
Wakes on the morn of its hundredth year,
Without both looking and feeling queer.
In fact there's nothing that keeps its youth,
So far as I know, but a tree and truth."

With the tree's principle of growth incorporated in your constitution, and with a devotion to truth which permits no dogma to limit scientific investigation, you have the double title to immortality. Your claim to public confidence and gratitude rests, as it

seems to me, upon many substantial grounds, of which I will enumerate these:—

1. In the first place, your society has been the barrier of this community against those whom Sir Thomas Browne quaintly describes as "Saltinbancoes, quacksalvers, and charlatans, whose impostures are full of cruelty and worse than any other, deluding not only unto pecuniary defraudations, but the irreparable deceit of death."

2. Again, it has done a great service to its members by substituting to so great an extent a just pride in an honorable profession for those miserable rivalries and little personal jealousies, to which, from their isolated positions, doctors in former times have been thought to be more exposed than others of liberal culture.

3. Thirdly, it has benefited its members and the community alike by steadily raising the standard of professional accomplishments and requirements.

4. In the fourth place, it has encouraged sincerity and directness, and put an end to much of that ancient pretence of which Lord Bacon tells us, in his essay "Of Seeming Wise,"—of men who "When they know within themselves that they speak of that they do not well know, would nevertheless seem to others to know that of which they may not well speak." We have all heard, if not known, of such traits in the doctors of former generations; but so much has all this been changed, that Miss Martineau, in her visit to this country, said that one of the things that most impressed her, was "the terrible truthfulness of the Boston physicians."

And lastly, and more than all, we are grateful for the mitigations of the heroic treatment of your predecessors which experience and science have brought; that Dr. Sangrado's bleeding and hot water are in so much less favor; that you are so much more inclined to take Apollo for your patron deity, rather than Mercury; and to try and trust the curative properties of sunshine instead of calomel.

But, gentlemen, with these acknowledgments of the value of what the Massachusetts Medical Society has accomplished as an organized body, what words can express the feelings which are moved as I think of its individual members. When I look into the faces of these hundreds of men before me, and remember the relations they sustain to the people among whom they live, each at his own post, in his daily round of duties, in the narrower or wider sphere of village or town; their relations to our families and homes; the vast amount of good they have done and are doing; our stay and staff in times of sorrow and of trial, giving strength to the weak, and comfort to the miserable, and hope to the despairing; when I think of their courage and skill, their tenderness and patience, I feel that I could have no other purpose in rising up than to call you—as you are—blessed!

Gentlemen, I will close by wishing that your society may constantly and continually prosper,

> "And live, untroubled by woes and fears,
> Through a second youth of a hundred years."

The Chairman:

History, that is nature, repeats herself even in her highest types. Apollo, the presiding divinity of this hall, who so appropriately overlooks our feast, was the father of Æsculapius. On rare occasions he revisits his descendants as the god both of healing and of poesy, the "ever-young." Need I say under what name he comes to-day?

Dr. Holmes said on rising:—

In speaking of some of the trials to which the members of the three "learned professions" are exposed, I have not hesitated to emphasize those specially belonging to the Medical Profession. I owe to my friends the Physicians so much more than the practice of medicine owes to me, that I feel at liberty to praise their calling without reserve, but no more than I think its due.

Three paths there be where Learning's favored sons,
Trained in the schools which hold her favored ones,
Follow their several stars with separate aim;
Each has its honors, each its special claim.
Bred in the fruitful cradle of the East,
First, as of oldest lineage, comes the Priest;
The Lawyer next, in wordy conflict strong,
Full armed to battle for the right,—or wrong;
Last, he whose calling finds its voice in deeds,
Frail Nature's helper in her sharpest needs.
Each has his gifts, his losses and his gains,
Each his own share of pleasures and of pains;
No life-long aim with steadfast eye pursued
Finds a smooth pathway all with roses strewed;
Trouble belongs to man of woman born,—
Tread where he may, his foot will find its thorn.

Of all the guests at life's perennial feast,
Who of her children sits above the Priest?
For him the broidered robe, the carven seat,
Pride at his beck, and beauty at his feet;
For him the incense fumes, the wine is poured,
Himself a God, adoring and adored!
His the first welcome when our hearts rejoice,
His in our dying ear the latest voice,

Font, altar, grave, his steps on all attend,
Our staff, our stay, our all but Heavenly friend!
Where is the meddling hand that dares to probe
The secret grief beneath his sable robe?
How grave his port! how every gesture tells
Here truth abides, here peace forever dwells;
Vex not his lofty soul with comments vain;
Faith asks no questions; silence, ye profane!
Alas! too oft while all is calm without,
The stormy spirit wars with endless *doubt;*
This is the mocking spectre, scarce concealed
Behind tradition's bruised and battered shield.
He sees the sleepless critic, age by age,
Scrawl his new readings on the hallowed page,
The wondrous deeds that priests and prophets saw
Dissolved in legend, crystallized in law,
And on the soil where saints and martyrs trod
Altars new builded to the Unknown God,
His shrines imperilled, his evangels torn,—
He dares not limp, but ah! how sharp his thorn!
Yet while God's herald questions as he reads
The outworn dogmas of his ancient creeds,
Drops from his ritual the exploded verse,
Blots from its page the Athanasian curse,
Though by the critic's dangerous art perplexed,
His holy life is Heaven's unquestioned text;
That shining guidance doubt can never mar,—
The pillar's flame, the light of Bethlehem's star!

Strong is the moral blister that will draw
Laid on the conscience of the man of law
Whom blindfold Justice lends her eyes to see
Truth in the scale that holds his promised fee.
What! Has not every lie its truthful side,
Its honest fraction, not to be denied?
Per contra,—ask the moralist,—in sooth
Has not a lie its share in every truth?
Then what forbids an honest man to try
To find the truth that lurks in every lie,
And just as fairly call on truth to yield
The lying fraction in its breast concealed?
So the worst rogue shall claim a ready friend
His modest virtues boldly to defend,
And he who shows the record of a saint
See himself blacker than the devil could paint.
What struggles to his captive soul belong
Who loves the right, yet combats for the wrong;

Who fights the battle he would fain refuse,
And wins, well knowing that he ought to lose;
Who speaks with glowing lips and look sincere
In spangled words that make the worse appear
The better reason; who, behind his mask
Hides his true self and blushes at his task,—
What quips, what quillets cheat the inward scorn
That mocks such triumph? Has he not his thorn?
Yet stay thy judgment; were thy life the prize,
Thy death the forfeit, would thy cynic eyes
See fault in him who bravely dares defend
The cause forlorn, the wretch without a friend?
Nay, though the rightful side is wisdom's choice
Wrong has its rights and claims a champion's voice;
Let the strong arm be lifted for the weak,
For the dumb lips the fluent pleader speak:—
When with warm "rebel" blood our street was dyed
Who took, unawed, the hated hirelings' side?
No greener civic wreath can Adams claim,
No brighter page the youthful Quincy's name!

How blest is he who knows no meaner strife
Than Art's long battle with the foes of life!
No doubt assails him, doing still his best,
And trusting kindly Nature for the rest;
No mocking conscience tears the thin disguise
That wraps his breast, and tells him that he lies.
He comes: the languid sufferer lifts his head
And smiles a welcome from his weary bed;
He speaks: what music like the tones that tell
"Past is the hour of danger,—all is well!"
How can he feel the petty stings of grief
Whose cheering presence always brings relief?
What ugly dreams can trouble his repose
Who yields himself to soothe another's woes?
Hour after hour the busy day has found
The good physician on his lonely round;
Mansion and hovel, low and lofty door,
He knows, his journeys every path explore,—
Where the cold blast has struck with deadly chill
The sturdy dweller on the storm-swept hill,
Where by the stagnant marsh the sickening gale
Has blanched the poisoned tenants of the vale,
Where crushed and maimed the bleeding victim lies,
Where madness raves, where melancholy sighs,
And where the solemn whisper tells too plain
That all his science, all his art, were vain.

How sweet his fireside when the day is done
And cares have vanished with the setting sun!
Evening at last its hour of respite brings
And on his couch his weary length he flings.
Soft be thy pillow, servant of mankind,
Lulled by an opiate Art could never find;
Sweet be thy slumber,—thou hast earned it well,—
Pleasant thy dreams! Clang! goes the midnight bell!
Darkness and storm! the home is far away
That waits his coming ere the break of day;
The snow-clad pines their wintry plumage toss,—
Doubtful the frozen stream his road must cross;
Deep lie the drifts, the slanted heaps have shut
The hardy woodman in his mountain hut,—
Why should thy softer frame the tempest brave?
Hast thou no life, no health, to lose or save?
Look! read the answer in his patient eyes,—
For him no other voice when suffering cries;
Deaf to the gale that all around him blows,
A feeble whisper calls him,—and he goes.
Or seek the crowded city,—summer's heat
Glares burning, blinding, in the narrow street;
Still, noisome, deadly, sleeps the envenomed air,
Unstirred the yellow flag that says "Beware!"
Tempt not thy fate,—one little moment's breath
Bears on its viewless wing the seeds of death;
Thou at whose door the gilded chariots stand,
Whose dear-bought skill unclasps the miser's hand,
Turn from thy fatal quest, nor cast away
That life so precious; let a meaner prey
Feed the destroyer's hunger; live to bless
Those happier homes that need thy care no less!
Smiling he listens; has he then a charm
Whose magic virtues peril can disarm?
No safeguard his; no amulet he wears,
Too well he knows that Nature never spares
Her truest servant, powerless to defend
From her own weapons her unshrinking friend.
He dares the fate the bravest well might shun,
Nor asks reward save only Heaven's "Well done!"
Such are the toils, the perils that he knows,
Days without rest and nights without repose,
Yet all unheeded for the love he bears
His art, his kind, whose every grief he shares.
Harder than these to know how small the part
Nature's proud empire yields to striving Art;
How, as the tide that rolls around the sphere

Laughs at the mounds that delving arms uprear,—
Spares some few roods of oozy earth, but still
Wastes and rebuilds the planet at its will,
Comes at its ordered season, night or noon,
Led by the silver magnet of the moon,
So life's vast tide forever comes and goes,
Unchecked, resistless, as it ebbs and flows.
Hardest of all, when Art has done her best,
To find the cuckoo brooding in her nest;
The shrewd adventurer, fresh from parts unknown,
Kills off the patients Science thought her own;
Towns from a nostrum-vender get their name,
Fences and walls the cure-all drug proclaim,
Plasters and pads the willing world beguile,
Fair Lydia greets us with astringent smile,
Munchausen's fellow-countryman unlocks
His new Pandora's globule-holding box,
And as King George inquired with puzzled grin
"How—how the devil get the apple in?"
So we ask how,—with wonder-opening eyes,—
Such pygmy pills can hold such giant lies!
Yes, sharp the trials, stern the daily tasks
That suffering Nature from her servant asks;
His the kind office dainty menials scorn,
His path how hard,—at every step a thorn!
What does his saddening, restless slavery buy,
What save a right to live, a chance to die,—
To live companion of disease and pain,
To die by poisoned shafts untimely slain?
Answer from hoary eld, majestic shades,—
From Memphian courts, from Delphic colonnades,
Speak in the tones that Persia's despot heard
When nations treasured every golden word
The wandering echoes wafted o'er the seas
From the far isle that held Hippocrates;
And thou, best gift that Pergamus could send
Imperial Rome, her noblest Cæsar's friend,
Master of masters, whose unchallenged sway
Not bold Vesalius dared to disobey;
Ye who while prophets dreamed of dawning times
Taught your rude lessons in Salerno's rhymes,
And ye, the nearer sires, to whom we owe
The better share of all the best we know,
In every land an ever-growing train,
Since wakening Science broke her rusted chain,—
Speak from the past, and say what prize was sent
To crown the toiling years so freely spent!

List while they speak:

In life's uneven road
Our willing hands have eased our brothers' load;
One forehead smoothed, one pang of torture less,
One peaceful hour a sufferer's couch to bless,
The smile brought back to fever's parching lips,
The light restored to reason in eclipse,
Life's treasure rescued like a burning brand
Snatched from the dread destroyer's wasteful hand,—
Such were our simple records day by day,
For gains like these we wore our lives away.
In toilsome paths our daily bread we sought,
But bread from Heaven attending angels brought;
Pain was our teacher, speaking to the heart,
Mother of pity, nurse of pitying art;
Our lesson learned, we reached the peaceful shore
Where the pale sufferer asks our aid no more,—
These gracious words our welcome, our reward,
Ye served your brothers; ye have served your Lord!

The Chairman:

For ages medicine has devoted all her material powers to the disorders of our grosser tissues. Only in our own generation have we begun to thoroughly study the derangements of the finer parts of our nature. In this province of psychology our art recognizes the necessity of calling to its aid all influences which control man's moral being. It is upon this border line that our profession blends with that other called divine. I know that you will be glad to listen to one who moves the hearts of men as few are gifted to do: Rev. Phillips Brooks.

[For this meagre abstract of the eloquent reply of Mr. Brooks, we are indebted to the account in the daily press, as the address was not written out, and could not be reproduced by the speaker.]

He spoke of the professions of theology and medicine as intrinsically and essentially associated. This society is like a great being which has lived through a century. How much suffering it has relieved in that time, and how it is to be congratulated for its labors and success! It receives the congratulations and the God-speed of the whole community as it starts off on the second century of its life. It is to be thanked not only for the care of the sick and the relief of suffering, but that it has laid its hands upon all classes, and has preserved the conditions upon which they do their work. So this great doctor who has lived comes and asks

for support in the future as in the past. It is a great privilege that this great doctor can study into the perpetual mystery of the human body. In the specialization of all human activity the medicine and ministry are temporarily separated, but the separation is only temporary, as is every separation of those who work in different fields of human life. In the battle with human sin, error and suffering, the combatants are temporarily separated, but as certainly as that sin and suffering are connected, these combatants will be united again in the final attack of the good upon the evil. It is one of the advantages of occasions like this celebration that as the combatants march forward they may signal one another in a friendly way.

The Chairman:

Our distinguished guests from far and near.—We have many with us whom you would gladly hear to-day, but time permits us to ask but one to respond for them; one whom they would select and you will listen to as preëminent in American medicine, as educator, author, and practitioner. I have the pleasure of presenting Dr. Gross of Philadelphia.

Dr. Gross spoke as follows:

Mr. Chairman, and Fellows of the Massachusetts Medical Society:

The toast just read devolves upon me a task as simple as it is agreeable to my feelings and to those of the gentlemen I represent on this floor,—it is that of tendering to the Massachusetts Medical Society our cordial thanks for the honor it has done us in inviting us to this great reunion, and in affording us an opportunity of participating in its deliberations and festivities. I am myself, as you are aware, not a delegate from any association; I am here on my own responsibility, and I accepted the invitation of the distinguished chairman the more willingly because similar courtesies, of which I could not avail myself, had been extended to me on at least four or five previous occasions. We had also heard much of your society, and knew personally some of its fellows, but the great majority of you were to us, as it were, veiled prophets. We now see you face to face, and are glad to meet you on your own ground.

In looking at you yesterday as I sat on the stage of Sanders Theatre, listening in wrapt attention to Dr. Green's able and learned address, and again this morning as I sat upon the platform of Horticultural Hall, listening to Dr. Warren's words as he portrayed the history of your society and of kindred organizations, I was struck with the venerable appearance of many of your

fellows, and I said to myself, old as these men are they still take a deep interest not only in the prosperity of their society, but in the welfare of their profession generally; they have come hither to encourage by their presence their younger brethren, and to show them that they are still earnestly at work in the behests of humanity and of scientific medicine. My colleagues and I cordially congratulate you upon having attained an existence such as no other medical society in this country has attained, except the State Medical Society of New Jersey, which celebrated its one hundred and fifteenth anniversary only a few weeks ago. Your position just now is certainly an anomalous one; you are one hundred years old, and yet you are neither blind, nor deaf, nor halt, in a state of dotage, nor afflicted with any of the infirmities incident to advanced age; on the contrary, you have passed the boundary line of a new life, and entered, with renewed hope and renewed vigor, upon a second century of existence. That the Massachusetts Medical Society may continue to flourish and to fulfil the high anticipations of its friends, at home and abroad, is the ardent wish not only of myself but of the delegates sent here by different medical organizations to do honor to this great occasion. Canada has sent you one of her representative physicians in the person of Dr. Hingston; delegates from a number of our state medical societies are present to show their respect for Massachusetts; and even the British Medical Association is honoring you by having, casually it is true, two of its distinguished members at this festive board. All hail to our English friends: England is a great country, and Massachusetts is a great State!

Yesterday, as I sat in the great Memorial Hall at Cambridge, looking at the numerous portraits which adorn its walls, and listening to the eloquent words of your distinguished president, I felt that I was upon classic ground, rendered famous as the educator of many of the great men, not only of Massachusetts, but of the country at large; and as a medical man I could not but feel that we all owed a large debt of gratitude to President Eliot for the part he has taken in improving medical education. The Harvard School is doing noble work, and every lover of progress, every public medical teacher, must feel a deep sense of shame that their example has not been imitated by every medical college in the country. It afforded me no little pleasure when I heard to-day that the Massachusetts Medical Society had pledged herself to sustain Harvard College in every laudable effort to advance medical education.

A medical man who visits Boston cannot fail to feel that he stands upon sacred ground, ground hallowed by the footprints of illustrious men, who have conferred lustre and immortality upon Massachusetts. He feels that he stands on the birthplace of the man who snatched the lightning from Heaven, and rendered it

subservient to the uses of men; that he stands in the very cradle of the American Revolution; that he stands within view of Bunker Hill where the first great battle on this continent was fought; a spot baptized with the blood of the gallant Joseph Warren, an honored member of our profession, who fell in the prime of life in defence of American liberty and independence. He feels that he stands upon ground hallowed by the names and deeds of John Hancock and John Adams; of Mason, Story, Webster, Shaw, Sumner, Choate and Curtis; of Quincy, Prescott, Everett and Lothrop; of Bowditch, Agassiz and Wyman; of Ellery Channing, Chapin and other great divines; and, coming down to our own profession, of John Warren, the founder of the Harvard Medical School, of James Jackson, John Collins Warren, J. Mason Warren, the one the grandfather and the other the father of your young and accomplished orator, of John Ware, of Channing, Shattuck, Hayward, Edward H. Clarke, Jacob Bigelow, J. B. S. Jackson, and many others whose names I do not now recall, but who all did honor to their profession, and who have left a record of which any commonwealth might justly be proud. What a noble record is here presented to men in every walk of life! If the elder Bigelow, who so recently passed from among you, after a long life crowned with honor and usefulness, had left no other memorial than his tract on "Self-Limited Diseases," and his paper on "Nature in Disease," he would have conferred an enviable immortality upon his profession and his state. If time permitted, I should delight to speak of my old friend, J. B. S. Jackson, of his vast labors in the interests of pathological anatomy, of his amiable character, and of the love and esteem in which he was universally held at home and abroad by the medical profession; but all I can do here is to pay a passing tribute to his memory, and add my regret that he was not longer spared to us, to his profession and to his country. I say nothing of the other members of the profession who sit around this festive board, and who, like myself, are merely tenants, as the lawyers would say, by courtesy for a few more years. Their white hair and their furrowed features are living witnesses to their mental and physical toil; they worthily occupy high places; they have nobly toiled in the great field of medicine; and posterity will cheerfully accord to them a niche in the temple of fame. The mantle which they have so long and so gracefully worn will fall gently upon the shoulders of their juniors, who are so well qualified to carry forward the work which they must of necessity leave unfinished. Let their juniors not forget the debt of gratitude which they owe to their seniors. Let them remember that, without the light which they have shed upon their profession and transmitted to them, their light would be like the light of the old oil lamp in comparison with the effulgence of the electric light of the present day. Every age has its duties and its privileges, and

must be judged by the light with which it is favored. Knowledge is progressive, and is not likely ever to attain perfection.

The Chairman :

While our profession is so earnestly engaged with the present ills of mankind and in searching for the secrets of a better future that it can give but little thought to the past, we are fortunate in having those who preserve for us the memory of our worthy predecessors and their good works in the early days of the state. I have the pleasure of presenting to you Rev. GEORGE E. ELLIS, Vice-President of the Massachusetts Historical Society.

Dr. ELLIS replied :—

The Massachusetts Historical Society may well claim an interest in this centennial occasion. Its diligent and accomplished librarian, in his address to you yesterday, gave you some idea of the contents of the ancient manuscripts and other sources from which he gathered his curious information. Having had the privilege of reading the whole of that address, of which only a fragment was spoken to you, I know what satisfaction you will find in its deliberate perusal. You will observe with professional approval one very striking fact, to which your attention is there drawn,—namely, the purpose and effort of what was from the beginning the legislature of Massachusetts, to secure honor and dignity to the true medical profession, by severe dealing with manifest quackery. The baffled attempt to obtain through our legislature, two years ago, the protection of our community from charlatans and incompetent practitioners, was but the last of a long series of efforts in that direction, of which the first is found on our records in the very first year of this colony. And this is the more noteworthy, as what is now represented as true medical science was then but in its infancy—here and over all Christendom hardly distinguishable from empiricism. The acute old Puritan discernment could even then draw the line between the effrontery of a bold charlatan and the tentative purpose of a right-minded tyro in a critical calling. The historical society will show you among its ancient portraits, one of the famous Dr. John Clark, perhaps the first here with a doctor's diploma from England, 1637–1664. He is said to have taken the lead in trepanning the skull. His portrait, venerable and sage, shows him with a skull on a table, boring into it with something that looks like a cork-screw.

It must have been to the equal satisfaction of members of both the professions when the clergy yielded up their ancient oversight of bodily maladies to the new generation of doctors of medicine.

On many of the ministers' diaries, and on some of the church records of our early years, are often found recipes for making ink, and for dealing with "the flux," sore throat and other diseases. There is evidence that the old clerical treatment was Herculean—as drastic as was their Calvinistic discipline for the soul. The stomach was the main place of assault. Heart and lungs were not of much consideration then, and the nerves do not appear to have been discovered as being such mischief-workers as they are held to be now. We must remember, however, that it was a doctor of medicine, not of divinity, who, by pronouncing the first "afflicted" person in Salem, in 1692, to be "evidently under the evil hand of the devil," opened the direful tragedies of the witchcraft delusion. Experience has shown that it is better that the two professions should stand apart. I recall the case of a minister, ill-furnished and unsuccessful in that profession, who ventured, as he phrased it, to "take up doctoring." He was soon in the hands of the law, for mal-practice. His explanation was, that "in preaching, most of what went into one ear went out of the other, while it was more risky to deal with apothecary's stuff."

The wisdom of severing the two professions is found in the fact, that the worst and meanest of all quacks among us are those who trifle with both professions and belong to neither. Ministers and physicians have at least one common object in dealing with the subjects of their care. It is an advantage for a person under treatment, morally or physically, to know as clearly as possible what is the matter with him—or, in our plain vernacular, "what ails him." It would be difficult to say which of the two professions has the advantage in the diagnosis of disease; but their knowledge in each case exceeds their curative skill and power.

While I thus strongly approve of a separation between the two professions, I ought to make an exception in my own case. I have tried all my life to keep out of the hands of doctors of medicine. And so far with complete success, except at that critical moment of opening existence when I was unable to protect myself. Though I call myself of middle age, I have been a witness to the initiation of the three most marvellous and valuable discoveries and appliances of our time. I saw in Paris Daguerre's first Sun-Pictures in his own Camera; and aided Prof. Morse in his manipulation of his Telegraph to be exhibited before Louis Philippe and his Cabinet. And in 1846 I was privileged, by the invitation of the late Dr. George Hayward, to witness the first use of Anæsthetic Vapors in surgical operations at the Massachusetts General Hospital—that ministration of mercy by which your profession anticipates the promise of painlessness which mine postpones till life has closed.

On the church records of the revered old Indian apostle and pastor, at Roxbury, John Eliot, I find this entry, under date of

1632: "Mary Chase, the wife of William Chase, had a paralitik humor wh. fell into her backbone, so that she could not stir her body but as she was lifted, and filled her with great torture, & caused her back to goe out of joynt, & bunch out from ye beginning to the end; of wh. infirmity she lay 4 years & a half, & a great part of the time a sad spectakle of misery. But it pleased God to raise her again, & she bore children after it."

I have submitted this case professionally to Dr. Holmes. As your proclivities will lead you to prefer the doctor's account of it to the apostle's, I will read it to you as the close of my speech.

296 Beacon Street, June 3, 1881.

My Dear Dr. Ellis:—

A consultation without seeing the patient is like a murder trial without the *corpus delicti* being in evidence. You remember the story of Mr. Jeremiah Mason and the witness who had had a vision in which the angel Gabriel informed him of some important facts: "Subpœna the angel Gabriel." So I should say, carry us to the bedside of Mary Chase: but she has been under green bedclothes so long that I am afraid she would be hard to wake up.

We must guess as well as we can under the circumstances. The question is whether she had angular curvature, lateral curvature, or no curvature at all. If the first, angular curvature, you must consult such authorities as Bryant, Dewitt and the rest. If you are not satisfied with these modern writers, all I have to say is, as I have said before when asked whom to consult in such cases, Go to *Pott*, to Percival Pott, the famous surgeon of the last century, from whom this affection has received the name, by which it is still well known, of "Pott's disease"; for if a doctor has the luck to find out a new malady it is tied to his name like a tin kettle to a dog's tail, and he goes clattering down the highway of fame to posterity with his æolian attachment following at his heels.

As for lateral curvature, if that had existed, it seems as if the Apostle Eliot would have said she bulged sideways, or something like that, instead of saying the backbone bunched out from beginning to end. Besides, I doubt if lateral curvature is apt to cause paralysis. Crooked backs are everywhere, as tailors and dressmakers know, and nobody expects to be palsied because one shoulder is higher than the other—as Alexander the Great's was, and Alexander Pope's also.

I doubt whether Mary Chase had any real curvature at all. Her case looks to me like one of those *mimoses*, as Marshall Hall called certain forms of hysteria which imitate different diseases, among the rest paralysis. The body of an hysteric patient will take on the look of all sorts of more serious affections. As for mental and moral manifestations, an hysteric girl will lie so that Sapphira would blush for her, and she could give lessons to a

professional pickpocket in the art of stealing. Hysteria might well be described as possession,—possession by seven devils, except that this number is quite insufficient to account for all the pranks played by the subjects of this extraordinary malady.

I do not want to say anything against Mary Chase, but I suspect that, getting nervous, and tired and hysteric, she got into bed, which she found rather agreeable after too much housework and perhaps too much going to meeting, liked it better and better, curled herself up into a bunch which made her look as if her back was really distorted, found she was cosseted and posseted and prayed over and made much of, and so lay quiet until a false paralysis caught hold of her legs and held her there. If some one had "hollered" fire! it is not unlikely that she would have jumped out of bed, as many other such paralytics have done under such circumstances. She could have moved, probably enough, if any one could have made her believe that she had the power of doing it. *Possumus quia posse videmur.* She had played *possum* so long that at last it became *non possum.*

Yours very truly,

O. W. Holmes, M.D.

The Chairman:

Some of the profoundest mysteries in human biology may be best studied in their first essays at evolution in the simplest forms of animal life. Our profession should not forget how dependent it is upon the work of the comparative zoölogist for the data necessary to such important investigations. We have with us one whom you will be happy to greet, not only as the fit inheritor of a great name in natural science, but as one who has brought from the depths of sea and earth the treasures of creation for the student's use: Mr. Agassiz.

Mr. Agassiz replied:—

I feel that I do not appear as a total stranger to the members of the Massachusetts Medical Society. We have already become acquainted about two years ago, when I had the pleasure of corresponding with every member of the Society. I was going to say in an official way, but from the exclamation marks which accompanied some of the answers received, I should have said officious way. Our short postal card correspondence, which I still retain among my archives, has given me a clear insight into the decided views entertained by many members of this Society on a delicate subject; it is however not my intention to bring up here again the questions raised by this expressive correspondence.

Although the grandson of a Doctor of Theology and the son of a Doctor of Medicine, I have no claim to be here except as a student of a branch of science which not long ago was cultivated mainly by physicians. In fact we naturalists are only off-shoots of the medical profession, with the specialization of scientific research. The physician who in the early days of Natural History, cultivated with so great success either Physiology, Botany or Comparative Anatomy, led the way for their successors who, although trained as regular physicians, yet little by little gave up their practice to devote themselves to their chosen specialty. The Nestors of our science are nearly all physicians, and it is only the younger generation of biologists, to which most of my associates belong, which has not had the advantage of a medical training.

The most pregnant theories of biology owe their origin to physicians. It was Schwam who established the theory of the animal cell, Schleiden who extended it to the vegetable kingdom, and Virchow who made its practical application to the human kingdom, as we are still pleased to consider ourselves.

But biologists have in their turn repaid the medical profession; in addition to the great theory to which, with them, we all owe so much, the medical profession owes to naturalists theories based either upon the study of the lower animals, or of the vegetable kingdom, or drawn from the confines of that realm of organisms which are politely kicked about from one kingdom to the other,—theories which have had a far reaching influence in their application to man by the medical profession. In fact physicians are only biological specialists who practise upon the human race.

The old line of demarcation between man and the rest of the animal kingdom is still recognized both by the physician and the biologist. The latter but rarely encroaches upon the realm of the former, and both lose in the breadth of their views by the attempt to maintain a line which all modern investigation shows to be an imaginary one. If we are to understand our physical and mental constitution, we shall advance in our task in proportion as we draw our information from the animal kingdom as a whole and not from man alone. Is it too much to say that the slight progress made by metaphysics dates from the time when it called to its aid psychology, after it had laid its solid foundations in the lines of thought to be traced not in man alone but throughout the animal kingdom. It is to the profession of metaphysical Doctor (not the Doctor of metaphysics) that we must look for the next advance in this new line of research. The biologist holds the same relation to the rest of animated nature which the physician holds to man, and although we cannot all be the doctors, *par excellence*, the Doctor of Medicine, yet we all aim to be doctors of something. Even those "literary fellows" who have monopolized all education up to the present time, have been obliged to draw on the doctors

of this Society for one of their most brilliant stars. They have joined hands with us so far that they now ask their votaries to pass an examination for a doctor's degree, and their principal practice in the early days of their professional career is to strengthen and keep in repair the classical muscle of young men who are trying not only to get into college, but to remain there and finish their education according to the most approved methods of to-day: the relics only of a paleolithic age! But this is not the end of those who claim to be Doctors. The Theologians are now all Doctors of Divinity; the Lawyers even are leaving their profession to become Doctors of Laws; and at the present rate it is evident that no cultivated man is going to be satisfied till he is a Doctor of something; and from the number of Colleges, Professional Schools and Universities of this country, his chances are very good. But what is still more remarkable, this universal epidemic to become a doctor is no longer limited to the sex to which we have the fortune to belong, but has also, if I am correctly informed, broken out among women.

Dr. Williams then rose and said :—

We are not without links which connect us with the olden time. Another Warren is in the field, adding lustre to the name he bears. And a stately representative of the Fathers, who was among those present at a dinner given by this society to its first president on his hundredth birthday, but for the uncertainties of the weather would to-day have graced our table with his presence. I ask the society to join me in offering our respects to EDWARD REYNOLDS; who has been during two whole generations of doctors *facile princeps;* an exemplar of honor, skill, and generous courtesy; a true Fellow of the Massachusetts Medical Society.

In closing, Dr. White said :—

Thus ends our centennial anniversary, and may our children find our Society as prosperous a hundred years hence.

The following, among very many letters received from distinguished physicians, are printed as illustrative of the warm interest exhibited by the profession throughout the country in the welfare of the society.

FROM DR. WILLARD PARKER, OF NEW YORK.

NEW YORK, June 2, 1881.

MY DEAR SIR:—

I have been absent, hence the delay of my answer to your kind invitation.

I regret that I am unable to join you in the Centennial Celebration of the Massachusetts Medical Society.

I entertain for her a profound respect; she has ever been conservative, guided by science, wisdom, and justice. Not in the state only, but in the country, her influence on education and practice has been felt. And to her, in no small degree, is the medical profession of Massachusetts indebted for the high position it occupies in our broad land.

Sincerely yours,

WILLARD PARKER.

To JAMES C. WHITE, M.D.,
Anniversary Chairman.

FROM DR. J. M. DA COSTA, OF PHILADELPHIA.

PHILADELPHIA, May 25, 1881.

MY DEAR SIR:—

I beg to acknowledge the courteous invitation to be present at the Centennial Celebration of the Massachusetts Medical Society, and to greatly regret my inability to leave Philadelphia just at that time. It would, indeed, give me pleasure to share in the celebration. The high standing of the society, its old renown, the influence it has exerted on the advance of medicine in this country, make its anniversary a matter of national importance. I can bespeak for it no brighter future than, that when its second centennial comes to be celebrated, it shall have the same warm wishes centred in it and the same splendid record to point to that it now has.

Most truly yours,

J. M. DACOSTA.

JAMES C. WHITE, M.D.,
Chairman, etc.

FROM DR. J. J. WOODWARD, PRESIDENT OF THE AMERICAN MEDICAL ASSOCIATION.

WAR DEPARTMENT,
SURGEON GENERAL'S OFFICE.

Washington, D. C., May 24, 1881.

DR. JAMES C. WHITE,
Anniversary Chairman.

DEAR SIR :—

Please accept my thanks for your kind invitation to be present at the centennial celebration of the Massachusetts Medical Society on the 7th and 8th of June, and my regrets that circumstances will not permit me to be with you at that time. I send to the society my congratulations on this auspicious occasion, with the hope that the second century of its existence may be even more glorious and fruitful than the one that has just expired.

J. J. WOODWARD,
President of the American Medical Association.

TREASURER'S REPORT.

The Treasurer respectfully reports that the receipts on the Society's account during the year ending April 15, 1881 (the last financial year), were $8,160.74; and that the expenditures were $6,617.50. The balance carried to the new year's account is $1,543.24. The items of receipt and disbursement appear in the accompanying balance-sheet.

The Society's funded property has remained without change since the last report; its amount being $31,420.17.

In December, 1880, the Society received from the executors of the will of the late Dr. John Clough, of Woburn, the sum of one hundred dollars, to be expended in the form of prizes for "three of the best papers on the treatment of disease by moral management *versus* medicine or drugs,"— the first prize being fifty dollars, the second being thirty dollars, and the third twenty dollars.

Repectfully submitted.

F. W. DRAPER,

Boston, June 1, 1881. *Treasurer.*

Dr. F. W. Draper, Treasurer, in Account with

INCOME.

Balance from last account		$1243 95
Assessments paid to the Treasurer		1520 00
Assessments collected by DISTRICT TREASURERS:—		
Barnstable	$90 00	
Berkshire	150 00	
Bristol North	105 00	
Bristol South	30 00	
Essex North	255 00	
Essex South	190 00	
Franklin	30 00	
Hampden	245 00	
Hampshire	155 00	
Middlesex East	140 00	
Middlesex North	300 00	
Middlesex South	320 00	
Norfolk	130 00	
Plymouth	170 00	
Suffolk	1450 00	
Worcester	130 00	
Worcester North	150 00	
		4040 00
Interest account:—		
General Fund	450 12	
Shattuck Fund	366 67	
Phillips Fund	400 00	
Cotting Fund	35 00	
		1251 79
Bequest of Dr. John Clough		100 00
Diploma account		5 00
		$8160 74

the Massachusetts Medical Society. Cr.

EXPENSE.

On account of the Committee of Arrangements for the Annual Meeting, 1880:—		
Caterer's bill	$1125 00	
Cigars	99 50	
Horticultural Hall	150 00	
Incidentals	41 31	
Music	115 00	
Music Hall	206 00	
Printing	7 50	
		$1744 31
Committee on Publications:—		
Braithwaite's Retrospect	1847 50	
Printing annual publications	332 44	
		2179 94
Councillors' Orders:—		
Lunches at Stated Meetings	45 00	
Legal fees	5 50	
Printing new edition of By-Laws	73 59	
		124 09
District Societies' Account:—		
Advertising Censors' meeting	3 50	
Censors' fees	94 50	
Dividend of 1880	1200 00	
Treasurer's fees	252 53	
		1550 53
Librarian's Expenses:—		
Clerk	50 00	
Postage	230 28	
		280 28
Recording Secretary's Expenses:—		
Incidentals	10 35	
Postage	31 05	
Printing	73 75	
		115 15
Rent		125 00
On Treasurer's Account:—		
Incidentals	20 05	
Postage	32 65	
Printing	34 75	
Stationery	10 75	
Salary	400 00	498 20
		6617 50
Balance to new account		1543 24
		$8160 74

BOSTON, May 23, 1881.

The undersigned, a Committee appointed to audit the accounts of the Treasurer of the Mass. Med. Society, for the financial year ending April 15, 1881, respectfully report that they have attended to the duty assigned to them; they find the accounts properly vouched and correctly cast. They report also that they have examined the evidences of the Society's funded property, and find the same safely kept.

ROBERT T. EDES, } *Auditing*
BENJAMIN S. SHAW, } *Committee.*

Officers of the Massachusetts Medical Society.

1881–82.

Chosen June 7, 1881.

HENRY W. WILLIAMS,	Boston,	President.
THOMAS H. GAGE,	Worcester,	Vice President.
FRANK W. DRAPER,	Boston,	Treasurer.
CHARLES W. SWAN,	Boston,	Cor. Secretary.
FRANCIS W. GOSS,	Roxbury,	Rec. Secretary.
DAVID H. HAYDEN,	Boston,	Librarian.
PLINY EARLE,	Northampton,	Orator.
GEORGE S. OSBORNE,	Peabody,	Anniv. Chairman.

Standing Committees.

Of Arrangements.

F. C. Shattuck, C. E. Wing,
E. G. Cutler, A. T. Cabot,
E. H. Bradford, H. C. Haven.

On Publications.

G. C. Shattuck, R. M. Hodges, B. E. Cotting.

On Membership and Resignations.

J. Ayer, F. Minot, D. W. Cheever.

On Finances.

C. D. Homans, W. W. Wellington, B. S. Shaw.

To Procure Scientific Papers.

C. W. Swan, F. K. Paddock, G. S. Stebbins.
J. R. Chadwick, R. H. Fitz.

On Ethics and Discipline.

R. L. Hodgdon, G. J. Townsend, G. E. Francis,
A. H. Johnson, C. Howe.

Presidents of District Societies—Vice-Presidents (Ex-Officiis).

[Arranged according to Seniority.]

R. M. Hodges,
J. Crowell,
A. Hosmer,
H. M. Holmes,
C. L. Swasey,
W. C. B. Fifield,
J. W. Goodell,
E. J. Sawyer,
N. M. Ransom,
E. Warner,
G. E. Pinkham,
A. H. Cowdrey,
H. Gamwell,
J. H. Goddard,
W. R. Howes,
B. D. Gifford,
J. B. Learned.

Councillors.

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Berkshire.—Drs. J. F. A. Adams, Pittsfield; C. W. Burton, Adams; L. Miller, Stockbridge; H. L. Sabin, Williamstown; D. M. Wilcox, Lee.

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Bristol South.—Drs. E. P. Abbé, New Bedford; S. W. Bowen, R. T. Davis, Fall River; G. T. Hough, New Bedford; E. T. Learned, Fall River; A. B. Paun, Middleboro'.

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Essex South.—Drs. J. Allen, Topsfield; C. A. Carlton, Salem; H. Coleman, Lynn; C. H. Hildreth, Gloucester; A. H. Johnson, A. Kemble, Salem; E. Newhall, Lynn; G. S. Osborne, Peabody; J. G. Pinkham, Lynn; G. A. Priest, Manchester.

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Hampden.—Drs. C. Bell, Feeding Hills; T. F. Breck, Springfield; T. L. Chapman, Longmeadow; G. E. Fuller, Monson; G. C. McClean, Springfield; D. H. Nutting, Chicopee Falls; A. R. Rice, Springfield.

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Middlesex North.—Drs. W. Bass, C. M. Fisk, Lowell; S. W. Fletcher, Pepperell; L. S. Fox, A. W. Lavigne, W. H. Leighton, M. G. Parker, G. H. Pillsbury, H. J. Smith, Lowell.

Middlesex South.—Drs. B. F. D. Adams, Waltham; A. H. Blanchard, Sherborn; H. C. Chapin, Lincoln; H. Cowles, Saxonville; T. Crozier, J. G. Dearborn, Charlestown; R. L. Hodgdon, Arlington; H. Holmes, Lexington; O. E. Hunt, Newtonville; A. C. Livermore, Stow; H. E. Marion, Brighton; E. H. Stevens, North Cambridge; L. R. Stone, Newton; G. J. Townsend, So. Natick; C. E. Vaughan, Cambridge; A. C. Webber, W. W. Wellington, Cambridgeport; R. Willis, Somerville; M. Wyman, Cambridge.

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Plymouth.—Drs. J. B. Brewster, Plymouth; N. P. Brownell, South Scituate; J. C. Gleason, Rockland; A. Millet, East Bridgewater; A. E. Paine, Brockton.

Suffolk.—Drs. S. L. Abbot, J. Ayer, H. H. A. Beach, H. J. Bigelow, C. J. Blake, J. G. Blake, H. I. Bowditch, S. Cabot, D. W. Cheever, H. Curtis, H. Derby, O. W. Doe, F. W. Draper, *Treasurer*, C. Ellis, R. H. Fitz, C. F. Folsom, J. O. Green, S. A. Green, F. B. Greenough, W. H. H. Hastings, D. H. Hayden, *Librarian*, R. M. Hodges, C. D. Homans, J. Homans, W. Ingalls, B. J. Jeffries, F. I. Knight, S. W. Langmaid, G. H. Lyman, F. Minot, J. P. Reynolds, W. L. Richardson, G. C. Shattuck, A. D. Sinclair, D. H. Storer, A. M. Sumner, C. W. Swan, *Corresponding Secretary*, G. G. Tarbell, O. F. Wadsworth, T. Waterman, Boston; W. G. Wheeler, Chelsea; J. C. White, E. N. Whittier, H. W. Williams, *President*, Boston.

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Worcester North.—Drs. R. F. Andrews, Gardner; G. D. Colony, G. Jewett, Fitchburg; I. Russell, Winchendon; F. H. Thompson, Fitchburg.

Censors.

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Bristol South.—Drs. J. Dwelly, Fall River; S. W. Hayes, A. M. Pierce, New Bedford; F. A. Sawyer, Wareham; W. H. Taylor, New Bedford.

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Essex South.—Drs. C. A. Lovejoy, Lynn; C. C. Pike, Peabody; O. B. Shreve, Salem; S. W. Torrey, Beverly; A. M. Tupper, Rockport.

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Hampden.—Drs. S. W. Bowles, F. W. Chapin, S. Lawton, Springfield; D. H. Nutting, Chicopee Falls; A. F. Reed, Holyoke.

Hampshire.—Drs. C. W. Cooper, Northampton; D. B. N. Fish, Amherst; E. E. Gaylord, D. Pickard, A. W. Thompson, Northampton.

Middlesex East.—Drs. W. S. Brown, Stoneham; C. E. Chase, Woburn; J. P. Elliott, North Woburn; S. W. Kelley, W. F. Stevens, Stoneham.

Middlesex North.—Drs. F. W. Chadbourne, J. J. Colton, L. Huntress, J. C. Irish, F. Nickerson, Lowell.

Middlesex South.—Drs. C. H. Cook, Natick; E. R. Cutler, Waltham; M. A. Morris, Charlestown; J. T. G. Nichols, Cambridge; A. L. Norris, East Cambridge.

Norfolk.—Drs. W. P. Bolles, Dorchester; W. H. Campbell, Roxbury; O. F. Rogers, Dorchester; G. K. Sabine, Brookline; E. T. Williams, Roxbury.

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Worcester.—Drs. W. Davis, Worcester; J. W. Hastings, Warren; J. B. Rich, Worcester; G. C. Webber, Millbury; W. H. Workman, Worcester.

Worcester North.—Drs. J. M. Blood, Ashby; B. H. Hartwell, Ayer; A. O. Hitchcock, Fitchburg; J. M. Randall, Leominster; A. L. Stickney, Ashburnham.

Commissioners of Trials.

Barnstable . . .	T. R. Clement . . .	Centreville.
Berkshire	Abner M. Smith . .	Pittsfield.
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2. Publications are in no case sent except to those who have paid their assessments.

3. The assessment is payable in advance, either to the District Treasurers, or to the Treasurer of the Society, Dr. F. W. Draper, No. 36 Worcester Street, Boston.

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FRANCIS W. GOSS,
Recording Secretary.

Hotel Eliot, Roxbury, Mass.

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AUG 26 1893